Lower Chippewa River State Natural Area

Feasibility Study and Environmental Impact Statement

Wisconsin Department of Natural Resources

November 15, 1999

Feasibility Study Team Members

Guidance Team, Function

John DeLaMater, Lands Leader, West Central Region
Howard Druckenmiller, Director, Bureau of Endangered Resources
Bob Roden, Director, Bureau of Facilities and Lands

Core Team, Function

John Cole, Wildlife Management
Dave Gjestson, Facilities and Lands
Randy Hoffman, *Endangered Resources
Dave Linderud, Wildlife Management
Bob Michelson, Lower Chippewa GMU Land Leader
John Paddock, Lower Chippewa GMU Water Leader
Mike Ries *Landscape Architect
Rob Strand, Environmental Analysis
Dave Weitz, Communication and Education
Chris Widstrand, Forestry

Extended Team, Function

Bill Krochmalski, Real Estate
Sue Lanigan, West Central Region
Bob Manwell, Public Information Specialist
Jean Rygiel, Parks and Recreation
Randy Schott, Lower Chippewa GMU Land Subteam Leader
Bill Wrasse, Law Enforcement
Kate Barrett, GEO Mapping
Dave Siebert, Ecologist, Integrated Science Services

*Planning Team Co-leaders

lcrsna fs 11 –8 -99

TABLE OF CONTENTS

APPENDICES:

TABLES:

MAPS:

Environmental Impact Statement and Feasibility Study

for the Proposed Lower Chippewa River State Natural Area

INTRODUCTION

To The Reader:

This document is the Environmental Impact Statement (EIS) and Feasibility Study for the establishment of the Lower Chippewa River State Natural Area. The study area for the proposed project is located in western Eau Claire County, southern Dunn County, and portions of Pepin and Buffalo counties. This proposed State Natural Area includes a goal of protecting 15,000 acres. This EIS has been prepared to meet the requirements of the Wisconsin Environmental Policy Act (WEPA) and Chapter NR 150 of the Wisconsin Administrative Code.

The purpose of an EIS is to disclose, explain, and evaluate the environmental effects of a proposed government action to the decision-makers and the public. The EIS describes and evaluates alternatives to the proposed course of action. To provide for public participation in the study process, the EIS is circulated for public review and comment for a period of 45 days. Within the 45-day review period, a public informational hearing is conducted. The public review period and a formal hearing give interested and/or affected persons a chance to discuss the study area, project alternatives, and potential impacts directly with the study team.

A Feasibility Study is used to determine whether it is feasible for the Department of Natural Resources to establish, and acquire a new property or to make a significant change to the boundary of an existing property. The evaluation of feasibility takes into account the physical and biological environment, the opinions of the public, including area landowners, and the availability of funding and staff to adequately accomplish the project goal. Further, the study presents an analysis of land acquisition boundaries including a preferred alternative, describes general land management concepts and ensures ecosystem management principles are considered in these decisions.

After you have read this document, you are invited to send your ideas and comments to the Department staff listed below. Following completion of the 45-day public review period, the study team will analyze the comments and information received, and modify this document and the project concept accordingly, if warranted. You will be notified via a Record of Decision when the EIS/Feasibility Study process has been completed. The final proposal will be referred to DNR administrators and ultimately to Department Secretary George Meyer for presentation to the Natural Resources Board. If the Board approves, the last step in the approval process is presentation to Governor Thompson.

The Governor's approval of the EIS/Feasibility Study would authorize the DNR to begin land protection and acquisition efforts in the study area. The agency would then develop a property Master Plan to guide future development and management of the project. Master Planning involves another public participation process over a time period of approximately 18-months.

The proposed Lower Chippewa River State Natural Area would establish and protect 15,000 acres focusing on remnant prairie, oak savanna, woodlands, wetlands and geologic features containing the greatest concentration of rare species of any similar sized area found in Wisconsin.

The Department's proposed goal for the project is to:

- Protect and manage up to 15,000 acres of native plant and animal communities, geological and archaeological sites of statewide significance, and rare plant and animal habitats.
- Provide areas for educational and scientific research.
- Provide hunting, fishing, and non-vehicular recreational opportunities as secondary benefits where compatible.
- Work in partnership with Buffalo, Pepin, Dunn, and Eau Claire county residents and other cooperators to explore additional land protection and management opportunities.

The Department would use fee title and easement land acquisition as the primary land protection tool. Partnerships with individual landowners, local units of government, nonprofit conservation organizations and other state and federal agencies would also be pursued. Habitat management practices could include prairie restoration, prescribed burning, removal of exotic plants and trees, streambank stabilization projects, and aquatic habitat enhancement and restoration projects.

At full ownership and development, the landscape of the study area would look much the same as it does today. However, the protection and restoration of native plant communities and rare species habitats on state acquired lands, along with the cooperative protection and management of native habitats on private lands, would allow the prairies, oak savannas, and other native habitats to persist on the landscape for generations. Recreational opportunities would improve for hunting, fishing, nature observation and scientific study activities. However, such activities are not expected to increase to levels that would generate significant user or trespass conflicts. The specific types and extent of recreation opportunities would be determined when the Master Plan for the project is developed.

Five open house events along with three mailed newsletters, which included questionnaires, have generated considerable support for the project from the public, local officials and area organizations. Additional information received from interested and concern citizens is still important for developing the best study of these resources.

Do you have questions? You can call the DNR study team members at any time you have questions or need additional information. For your convenience, they are listed by location so you can direct your call to the nearest representative.

Alma area-Dave Linderud, 608-685-6222
Menomonie area-John Cole, 715-232-1517
Durand area-Chris Widstrand, 715-672-8476
Eau Claire area-Mike Ries, 715-839-3743
Madison area-Randy Hoffman-608-267-7758

Comments on the EIS and Feasibility Study should be submitted to the following address by January 21, 2000:

Tom Lovejoy, Environmental Coordinator
Wisconsin Department of Natural Resources
PO Box 4001
Eau Claire, WI 54702

Definitions

For the purposes of this document, the following words and phrases shall be defined as:

"area-sensitive wildlife" -	species that require a large, contiguous block of habitat to meet one or more of their basic life cycle requirements
"biological diversity" -	the spectrum of life forms and the ecological processes that support and sustain them
"forbs" -	non-woody flowering plants
"landscape scale"-	land management across a broad geographic area
"non-native grasslands" -	grasslands dominated by grass and flower species not native to North America, such as hayfields and planted pastures
"non-profit conservation organizations (NCOs) -	501(c)(3) tax exempt, conservation organization which have land acquisition as one of their purposes
"oak savanna" -	native grasslands with a few scattered trees, primarily oak. Also referred to as oak openings
"prairie" -	the native grassland community that was present in the project area prior to European settlement. Prairie consisted of a variety of native grasses and flowers as well as other life forms
"presettlement" -	prior to a significant presence of European settlers (approximately mid-1800's)
"rare species" -	endangered, threatened, or special concern plants or animals. A G rank in the appendix denotes the species situation globally with 1 being rare and 5 being abundant. An S rank in the appendix denotes the same rank in the State of Wisconsin
"GMU"-	The Department's local management area named the Geographic Management Unit.
"NAPC"-	Natural Areas Preservation Council. The legislatively created council advises the Natural Areas Program.
"WISCLAND"-	A program to assess the vegetation of Wisconsin using satellite imagery.

Project Summary

One of the provisions of the present Knowles-Nelson Stewardship Program is the establishment of "Natural Areas." These areas are defined in State Statute 23.27 and Administrative Code NR 1.32. The statute states "natural area means an area of land or water which has educational or scientific value or is important as a reservoir of the state's genetic or biological diversity and includes any buffer area necessary to protect the area's natural values. It is the intent of the legislature to acquire, establish and preserve natural areas. The Administrative Code further states that such areas by their preservation, protect the state's natural diversity, provide sites for research and environmental education, and serve as benchmarks for assessing and guiding use of other lands in the state. Any natural area formally dedicated or designated can be given the title State Natural Area.

If this Feasibility Study is approved, the project will be named the Lower Chippewa River State Natural Area (LCRSNA). The 312,000-acre study area is centered on the lower reaches of the Chippewa and Red Cedar Rivers, from the cities of Eau Claire and Menomonie downstream to the Mississippi River. The study area encompasses all or portions of 24 townships within Buffalo, Pepin, Dunn, and Eau Claire counties (Figure 1):

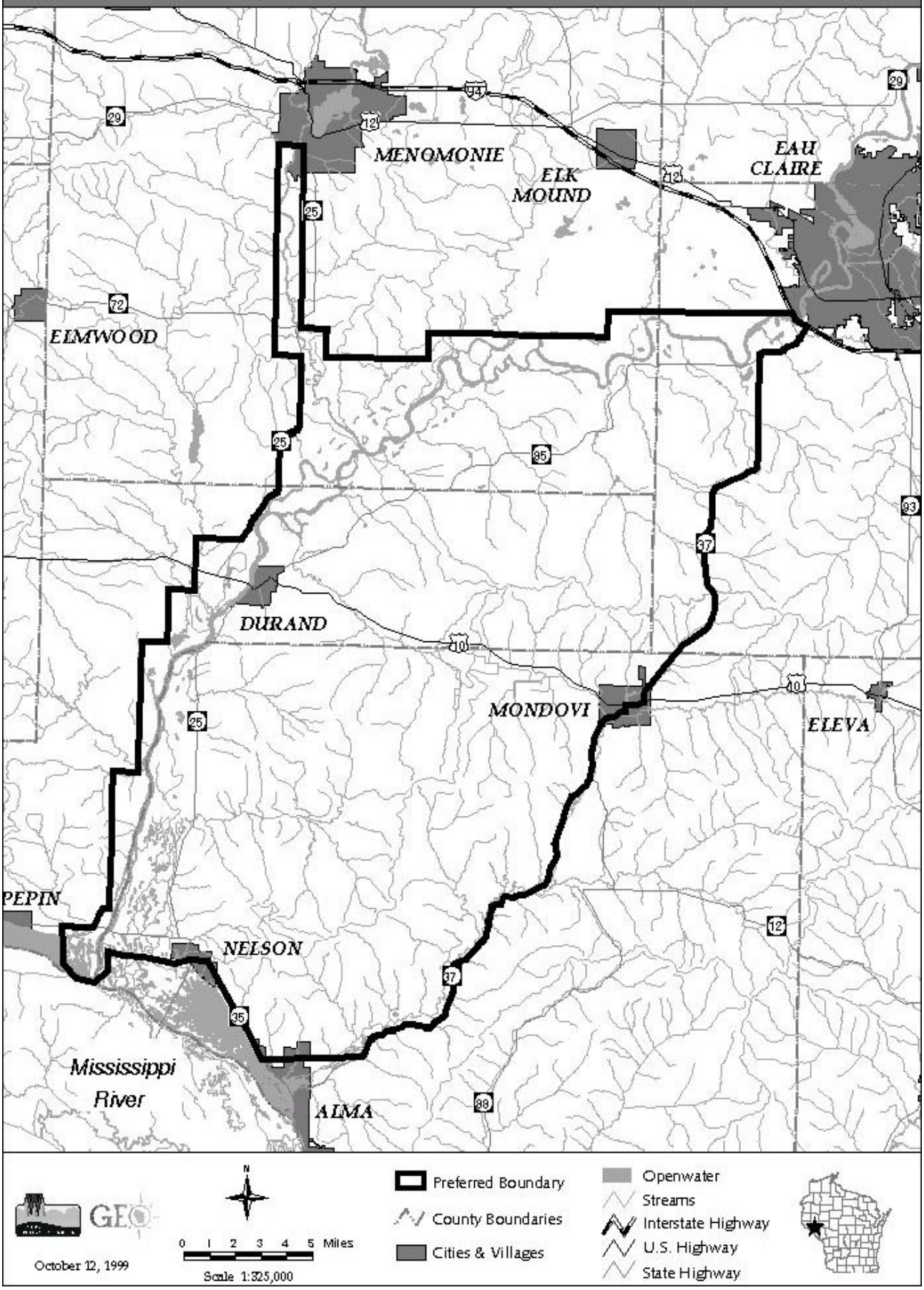
- All of the Townships of Maxville, Canton, Nelson, and portions of Alma, Modena, Gilmanton, and Mondovi Townships in Buffalo County.
- All of the townships of Albany, Lima, and Durand and portions of Waubeek, Waterville, Frankfort, and Pepin Townships in Pepin County.
- All of the Townships of Peru, and Rock Creek and portions of Menomonie, Dunn, and Spring Brook Townships in Dunn County.
- Portions of Union, Brunswick, and Drammen Townships in Eau Claire County.

The study area has the most diverse total number of plant and animal species as compared to any other similar sized area in the state. Within the study area, nearly 50% of all the state's native plant species are found. The rivers, backwaters and oxbow lakes harbor 70% of the state's fish species, as well as a diverse concentration of reptiles, amphibians, insects, and mollusks. Over three-quarters of the state's breeding bird species annually nest in the study area.

The largest intact floodplain forest in the upper Midwest is found along the Chippewa River downstream from Durand. Upstream, numerous floodplain savannas flourish. These floodplain savannas -- common here but rare elsewhere in the Midwest -- form on islands and peninsulas in the river and are maintained by fire and annual flooding. The surrounding hillsides contain the largest concentration of remaining prairies and savannas in the state. At the time of European settlement, an estimated 2.2 million acres of Wisconsin's landscape was occupied by prairie. Today that total acreage of all the prairies in the state is less than 8,000 acres. The study area contains over 2,000 acres of remnant native prairie (>25% of the prairie remaining in the state).

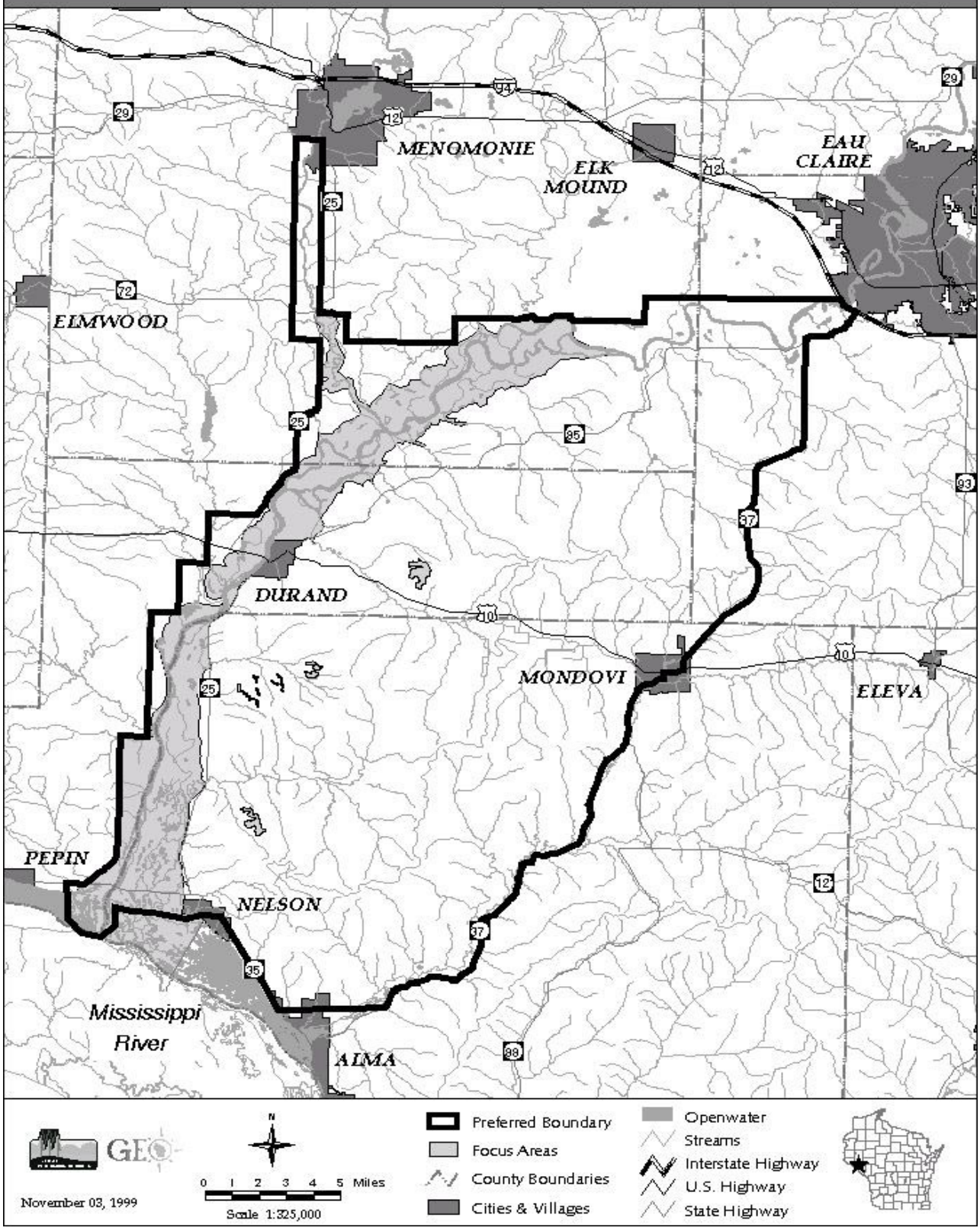
Lower Chippewa River State Natural Area

Preferred Boundary *(Figure 1)*



Lower Chippewa River State Natural Area

Preferred Boundary and Focus Areas (Figure 2)



Landscapes with diverse and high quality habitat usually support diverse numbers of plant and animal species. Common species are found here in abundance, and there is a higher concentration of rare species. With large patches of high quality terrestrial and aquatic habitat remaining, the study area harbors 125 species listed as endangered, threatened or special concern by the Wisconsin Natural Heritage Inventory. Fifteen species are listed as state-endangered and twenty-nine are state-threatened. Included in this group are the federally endangered Higgin's-eye mussel and the federally-threatened prairie bush-clover.

The proposed land management goal is to permanently protect 15,000 acres of natural areas and rare species habitat. This proposed goal would be in addition to the 5,157 acre combined goal for existing State Natural Area projects previously established in the study area. At present, 1,374 acres within existing projects are protected as State Natural Area. The study area also encompasses the entire boundaries of the Tiffany Wildlife Area, Dunnville Wildlife Area, and Big Swamp Wildlife Area. Most of the Red Cedar and the Chippewa River State Trails lie within the study area. Scattered state wildlife lands near Rock Falls are fully within the study area. These properties have their own acquisition goals (Figure 2) that would be maintained under other Department acquisition programs. The total acreage goal for the LCRSNA would be 15,000 acres.

The proposed LCRSNA would use an ecosystem management approach to identify, protect and manage high quality natural areas, and endangered and threatened species habitat. Emphasis would be centered on two aspects of landscape management: protecting water resources and the river corridor, and protecting areas of quality prairie/savanna within a functional agricultural landscape. The ecosystem management approach would also require consideration of social, economic, institutional, as well as biological aspects to the management efforts.

The shading on Figure 2 identifies focus areas (large blocks of land greater than 500 acres) that are known to meet or have a high potential to meet State Natural Areas criteria. These focus areas would be a priority for further study and/or possible land protection efforts over the next five years. Landowners with all or a portion of their land lying in the shaded focus area could expect a contact from the Department over the next five years. The extent of this contact would depend on the landowner's willingness to discuss the natural area values of their property. Landowners with natural area on their land who prefer not to participate in the project would not be subjected to any new or additional regulations or restrictions on land use by this proposal.

Smaller natural area sites are scattered throughout the remainder of the study area. Most of the landowners in the non-shaded portion of Figure 2 should not anticipate Department contact regarding natural areas inventory or establishment. Landowner contacts would be on a case-by-case basis and would focus on sites potentially containing native prairies/savannas, high quality wetlands, other unique habitats, or rare species habitat.

Any parcel of land within the study area would need to meet established criteria to qualify as a potential natural area. The parcel would first require an inspection or inventory by a competent biologist or archeologist. If a parcel contains the qualities needed to become a state natural area (criteria on pages 23 – 24), and the landowner is willing to protect the land, then numerous land protection options would be available to the landowner.

State Natural Area status can only be given to qualified parcels if land protection is long-term. Suitable land protection methods would include fee title acquisition, legal dedication, and numerous types of conservation easement. These protection methods could be accomplished by the Department, other governmental agencies, Non-governmental Conservation Organizations (NCOs), corporations or private landowners. Department fee title purchase could be open to public uses including hunting. Public access on eased lands would vary depending on the specific conditions of easement agreement. Purchase, dedication, or conservation easements with others would be variable, but have the necessary requirements to meet long-term resource protection. All of the above activities would be used to accomplish the protected acreage goal.

Lands purchased by the Department under this program would continue to provide tax revenue to local towns and counties. Rights acquired by easement would include the right to develop and manage the habitat. The landowner may retain the right to hunt, control trespass and public access. Landowners with easements would continue to pay property taxes.

Protection and management of river corridor areas would include limited reforestation of floodplain forest or savanna species, and limited replanting of prairie species in the uplands. Existing prairies and savannas would be maintained using prescribed burning, tree removal, invasive exotic species removal, herbicide application, and limited haying and grazing. Management of wetlands, cliffs, forested seeps would be minimal with, removal of invasive exotic species as the primary management application. Management of riverine habitats would also focus on the control of invasive species as well as streambank erosion control.

The proposed LCRSNA could be defined as a partnering project for land acquisition and management. The proposal emphasizes strategies and options for involvement of others in helping to protect the rare resources and ecosystems that occur in the lower Chippewa River valley. Establishing formal cooperative ventures to partner with NCOs and private landowners would be critical to the success of the project. Fee title land acquisition and easement acquisition by the DNR and partners should ensure long-term protection of the resource. Partnering involving farm subsidy programs such as "CREP" and "EQIP" would provide important additional habitat lands and management on a short-term basis that would not count toward the 15,000-acre State Natural Area goal.

This project proposal was included in the Department's five-year acquisition plan, which was approved by the Natural Resources Board in 1996. Approval to begin this Feasibility Study and Environmental Impact Statement was received from the Board in early 1998. The State Natural Areas program was established in 1951 and is the oldest such program in the United States. The program's goals of protecting biological diversity and providing research benchmarks are an obvious match with the study area's concentration of rare resources. The Lower Chippewa River study area location and project concept has generated considerable interest and support from a variety of individuals, groups, organizations, and other agencies. A complete summary of public input and comments received thus far is contained in the Public Involvement section (Section VIII) elsewhere in this document.

If the Natural Resources Board and Governor approve establishment of the proposed LCRSNA, a Master Plan process would be conducted in the future to identify in greater detail how the project would be implemented. The public participation element of that process would give the public an opportunity to be involved in the master planning decisions.

PURPOSE AND NEED

Project Need

The proposed State Natural Area is located in western Wisconsin along the Chippewa River downstream from Eau Claire to the Mississippi River, including the Red Cedar River downstream from Menomonie to its confluence with the Chippewa River. This land has historically been and still is an area of concentrated and diverse natural resources. Early explorers attested to the area's wealth of resources. Jonathan Carver's writing in 1767 stated 'the area was filled with stag, bear, deer, and bison that we shot every day in one form or another'. The importance of the area to species conservation is extolled by their persistence. The last location for elk (stag) in the state prior to reintroduction efforts was in Dunn County. The last big herds of bison were seen in Buffalo County. The last significant nesting of the extinct passenger pigeon occurred in this area.

The diversity of natural communities depicted on a map produced by Robert Finley from original land surveyor notes (CA 1840's) confirms the idea of concentrated resources in the lower Chippewa River area. This map identifies oak forest as being the most predominate natural community followed by oak openings (savannas), upland prairies, floodplain forest, sugar maple/basswood forest, oak barrens, open water, swamp conifers, sedge meadows and wet prairie, jack pine forest and barrens, white pine/aspen forest.

Table 1
Comparison of Land Cover 1840's to 1990's

The Wisconsin's original Vegetation map by Robert Finley was used to compile the 1840's land cover. The 1990's cover is compiled from satellite imagery as part of the WISCLAND project. The data sets are not directly comparable, but they do show the transformation of prairie and savanna land to agricultural uses.

Original (Pre-settlement) Vegetation Cover	Acres
Water	4,957
Jack Pine, Scrub Oak Forest and Barrens	1,999
Aspen, White Birch, Pine	473
Sugar Maple, Basswood, Red Oak, White Oak	6,318
Oak – White Oak, Black Oak, Bur Oak	113,937
Oak Openings – Bur Oak, White Oak, Black Oak	88,655
Prairie	63,663
Swamp Conifers – White Cedar, Black Spruce, Tamarack, Hemlock	5,296
Lowland Hardwoods – Willow, Soft Maple, River Birch, Ash, Elm, Cottonwood	20,260
Marsh and Sedge Meadow, Wet Prairie, Lowland Shrubs	6,032
Other	41
Total	311,631

1990's Land Cover	Acres
Urban/Built-up Land	1,827
Agricultural Land	169,839
Deciduous Forest	110,546
Evergreen Forest	1,666
Mixed Forest	1,785
Water	5,101
Wetland (includes forested wetlands)	18,241
Prairie	2,100
Barren Land	526
Total	311,631

Today's landscape still contains many of the diverse natural resources albeit in much different proportions and concentrations than in the past. Gone are the elk, bison, and passenger pigeon, but remaining are several natural communities and species that may afford the best opportunity remaining in the state for protection.

The study area encompasses over sixty miles of a free-flowing large river system. The lower Chippewa and Red Cedar rivers combine in the north central part of the study area. The Chippewa then flows south forming a delta system at the confluence with the Mississippi River. Associated with the main channels are significant water features including several side channels, backwaters, cut-off sloughs, oxbow lakes, terrace-base seepage lakes, tributary streams and springs. The total water resource provides habitat for 70% of the state's fish species including 18 rare species. The state-endangered crystal darter and state-threatened blue sucker have their highest statewide population densities here, according to a statewide fish distribution study (Tech. Bu. No. 175 Fago, 1992).

Another survey of aquatic biota revealed a population of the Pecatonica River mayfly (a critically imperiled species and candidate for listing as a federal-endangered species) near Durand (Research Report 179, Lillie, 1995). This is one of only three known populations in the entire world for the Pecatonica River mayfly. The river also contains one of the largest known populations of the state-threatened salamander mussel.

A report titled the Rivers of Life (1998) published by The Nature Conservancy evaluated wetlands across the nation for their importance to conserve fish and mussel species. The lower Chippewa River watershed was included as critical resource and was rated second in importance in Wisconsin after the lower St. Croix River. The Lower Chippewa River Basin Water Quality Management Plan (WDNR PUB- WR-216-96) states as a recommendation that numerous groups should work cooperatively "to study, protect, and enhance aquatic habitat and water quality between the Dells dam (in Eau Claire) and the mouth."

The floodplain forest that flanks the river from just south of Durand to The Upper Mississippi River National Wildlife and Fish Refuge contains the largest intact floodplain forest known in the entire upper Midwest. This delta formation contains numerous microhabitats primarily influenced by the flooding of the Chippewa River. The extent of the forest over 14,000 acres and the numerous microhabitats provides ideal habitat for many rare "area sensitive" bird species including six state-threatened species; Acadian flycatcher, cerulean warbler, hooded warbler, Kentucky warbler, red-shouldered hawk, and yellow-crowned night-heron. The backwaters and marshy areas provide abundant food for migrating birds. The Upper Mississippi River National Wildlife and Fish Refuge has been given status as a national important bird area (IBA) by Partners in Flight. The adjacent lower Chippewa River area is one of the top candidates for listing as a state IBA due to the numerous rare bird species and the concentration of migrating birds.

Upstream from Durand, the natural communities change to a more open forest with floodplain savanna communities occurring on islands and low floodplain ridges among the river channels. The phenomenon of savanna development along large rivers is rare not only in Wisconsin, but in North America. Oak savannas are one of the rarest natural communities remaining in the state and these floodplain savannas are even more rare. The best and largest examples occur on river islands and peninsulas between Durand and Caryville.

Table 2: Comparison of
Prairie and Savanna Acres (1940 - 1980)

An analysis of air photos taken in 1940 and 1980 for the townships of Maxville, Nelson and Canton in Buffalo County and Durand and Lima in Pepin County found 346 remnants that could be spatially analyzed. The size of each opening in acres was determined and then totaled. This comparison of changes over a forty-year period indicates a significant reduction in prairie acres. A similar analysis of savanna acres was conducted for Durand and Maxville. The analysis looked at scattered trees with openings between the trees, and by 1990 most of these openings filled-in with woody growth.

Township	1980	1940	%Reduction
Prairie Acres			
Durand - southern half	209	630	66%
Maxville	311	690	55%
Nelson	130	200	35%
Canton	84	140	40%
Lima	166	480	66%
Total Prairie Acres	900	2,140	58%
Savanna Acres			
Durand - southern half	20	950	98%
Maxville	6	260	97%

On the sandy, gravelly terraces and hills surrounding the river corridor, prairie remnants can be found. At the time when European settlement began in the state, approximately 2.2 million acres of prairie covered portions of the state. These lands were and still are very productive lands, and they have been mostly converted to other uses such as for row-crop agriculture. The prairies that were spared are typically found in areas too steep or too wet to be plowed. A cooperative enumeration of the remaining prairies by the Prairie Enthusiasts, The Nature Conservancy, and the Bureau of Endangered Resources tabulated just under 8,000 acres in the state. The same tabulation revealed that over 2,000 of those acres (25% of all the remaining unplowed native prairies in the state) occurs in the study area.

These last surviving prairie remnants are important for a variety of reasons. They are examples of native prairie communities and can serve as models for restoration efforts. They harbor a diversity of native plant species, which are adapted to this locale and can serve as a source of local ecotype seed, which can be used in prairie plantings. In addition, they may be valuable sites for nature study or scientific research.

The concentration of rare species seems to parallel the occurrence of rare to relatively intact natural community features. The Wisconsin Natural Heritage Inventory is responsible for identifying and maintaining the data for the rare part of Wisconsin's natural resources. Their data indicate a large concentration of rare species for the proposed LCRSNA when compared with other similar sized areas of the state. The study area has 125 species (Appendix 1) documented as endangered, threatened, or special concern. For comparative purposes, the lower Wisconsin Riverway has 67, the Apostle Islands National Lakeshore has 91, and all of Door County has 101 rare species.

Not all species are found in the previously described natural communities. Within the study area pockets of smaller natural communities often times provide habitat for endangered and threatened species. Examples of these limited natural communities are jack pine barrens, white pine forest, forested seeps, springs, open cliffs, and wet cliffs. In addition, the state-threatened Henslow's sparrow and Bell's vireo have consistently been recorded nesting in fallow fields, brushy pastures, and CRP enrolled acres within the study area.

Noss and Cupperrider (1994) in their book Saving Nature's Legacy stated two of the most critically imperiled natural communities on earth are tall grass prairies and oak savannas. A 1993 conference focusing on the rare oak savanna ecosystem developed a Midwest Oak Ecosystem Recovery Plan. A priority of this plan states that we should "establish a network of reserves that captures the full array of oak ecosystem species, communities and processes."

Due to the historical vegetation composition and remaining savanna, northwestern Buffalo County and Lima and Albany Townships in Pepin County has been identified by the DNR Bureau of Integrated Science Services (formerly Bureau of Research) as having potential for the establishment of a large scale savanna project. The findings were presented in a report entitled, "Potential Landscape Scale Management Opportunities" by John Krause of the Wisconsin Department of Natural Resources BISS, September 1995. The report highlights the natural features of the remnant native prairie imbedded within woodlands creating a savanna landscape.

A second report entitled "Managing Habitat for Grassland Birds: A Guide for Wisconsin" written by David Sample and Michael Mossman (1997, WDNR-BISS) identifies the lower Chippewa River area as being a high priority for landscape-scale grassland bird habitat management in Wisconsin. This report indicates the lower Chippewa River Savannas and Prairies have a high potential for savanna restoration and expansion. The report also identifies northwest Buffalo County as an important location to provide habitat for those species utilizing oak savanna, upland dry prairie and upland shrub habitat.

Lands acquired through the proposed LCRSNA would provide opportunities for outdoor recreation and education in addition to ecological benefits. Based on data from the Statewide Comprehensive Outdoor Recreation Plan 1991-1996, high and medium priority needs in this part of Wisconsin include hiking, walking, fishing, hunting, and nature study. These lands could help to meet those needs and could serve a variety of educational roles from providing outdoor classrooms and hands-on management experience for school children to providing sites for scientific study.

Lands acquired through the proposed LCRSNA would provide opportunities for outdoor recreation and education in addition to ecological benefits. The land could provide sites for outdoor classrooms, scientific study and hands-on management experience for students from elementary school age to university students and staff.

Assessment of Wisconsin's Outdoor Recreation Participation in the 1990's indicates walking, fishing, swimming, bicycling, wildlife viewing, and camping were highly popular activities. Pleasure driving, picnicking, canoeing, and snowmobiling were also found to be enjoyed by a great number of Wisconsin residents. Natural areas compatible activities include: hiking, walking, boating, fishing, hunting, nature study, historic-archeological site visits, as well as cross-country skiing and picnicking in designated areas.

Surveys show Wisconsin citizens place a high value on natural resources management and outdoor recreation, rating it over 9 on a scale of 1 to 10. Eighty-nine (89%) percent believe conservation for future generations is "very important." Seventy-two (72%) percent believe conservation for public recreation is "very important." Seventy-two (72%) percent also believe that everyone benefits from conservation programs, not just hunters and anglers. Over 1,650,000 of Wisconsin's 5.2 million residents actively participate in wildlife watching activities. Bird watching is one of the fastest growing activities in the United States. It increased 155% according to a National Survey on Recreation and the Environment conducted over the decade preceding 1994-95. A much higher number of Wisconsinites participate in outdoor recreation activities than the national average.

Proposed Goals

The Department proposes to:

1. Protect and manage up to 15,000 acres of native plant and animal communities, geological or archeological sites of state significance, or rare plant and animal species habitat.
2. Provide areas for scientific research and education.
3. Provide hunting, fishing, trapping, and non-vehicular recreational opportunities as secondary benefits where compatible.
4. Work in partnership with Buffalo, Pepin, Dunn, and Eau Claire county residents and other cooperators to explore additional land protection and management opportunities.

ENVIRONMENTAL DESCRIPTION

Physical Characteristics

The surface geology within the study area has been shaped by many factors. This region lies at the interface of the central plain and western upland geographical provinces. The central plain is characterized by flat to rolling topography such as that occurring between the Chippewa and Red Cedar rivers. The topography of the central plain has been influenced by the abrasion and drift deposition associated with "old" glacial activity of Early-Wisconsin or Pre-Wisconsin Age. The narrow, steep-walled valleys, and broad ridges in Buffalo and Pepin counties characterize the western upland region. While earlier glacial advances did leave a thin cap of drift on northern portions of the western uplands, much of this area has been in a driftless condition for at least the past 500,000 years. Ridge tops in the study area, especially those in northwest Buffalo County, are capped with a layer of fine, wind-blown material called loess. The depth of this material varies with topography from a few inches to several feet.

The bedrock underlying the study area consists of Cambrian age sandstone formations in the central plain, and Ordovician age limestone and sandstone formations in the western upland. Dolomitic limestone formations of the Prairie du Chien group cap the sandstone in the southern portions of the study area. The thickness of these dolomites varies considerably, with deposits up to several hundred feet south of the Chippewa River, and thinner deposits of a few feet to the north in Lima and Albany townships.

Dissecting this landscape, in a broad valley, is the Chippewa River. The valley of the Chippewa is filled with thick glacial outwash deposits. This glacial debris from a large portion of northern Wisconsin was flushed by the Chippewa River as meltwater when the glacier receded. Due to its lesser gradient, the Mississippi River could not carry away this vast amount of material transported by the Chippewa River. This resulted in thick deposits of sand and gravel at the confluence of the two rivers, which formed a natural dam that created Lake Pepin. In the expanse of time following the deposition of the glacial outwash, the river has cut into the material to its present position approximately 100 feet below the terrace level. The natural meandering of the river continues to erode the terraces in areas referred to as "yellow banks".

Soils within the study area vary widely from heavy and poorly drained to light and droughty. Many ridge-top areas have a wind deposited silt cap ranging from 6" to 48" in thickness. Soils are generally excessively drained or well drained throughout the study area. Moderately well drained and somewhat poorly drained soils are found more in the southeastern sections of the study area. Alluvial soils are found in the floodplain corridors.

Soil associations mapped within the study area include: Seaton-Fayette-Dubuque; Bertrand-Jackson-Curran; Burkhardt-Dakota; Plainfield-Sparta-Gotham; Arenzville-Orion; Noerden-Urne-Hixton-Boone; Gale-Norden; Loamy Alluvial; Dubuque-Fayette; Gale-Hixton; Sparta-Plainfield; Betrand-Richwood; Alluvail-Boaz; Plainfield-Plainbo; Dakota-Meridian-Shiffer; and Urne-Elk Mound.

Some wetlands have been lost, and many others degraded, in the study area. The losses have occurred more in the northern and eastern portions of the study area where topography has facilitated

drainage. These wetlands were mostly wet prairie, sedge meadow, or conifer swamps drained for agricultural purposes. Many remaining wetlands are located in the floodplain of the large rivers. These backwater areas have been degraded by a variety of land use practices such as grazing, elimination of vegetative buffers, changes in ground water flow, stabilized stream flow resulting in increased siltation and fertility, and reductions in desirable emergent and submergent aquatic vegetation. While these wetlands are degraded, their value for wildlife habitat and water quality protection is very high and would increase if they were protected.

Surface waters within the study area are made up of the two large rivers, numerous sloughs, terrace-base lakes, oxbows, ponds, prairie potholes, springs, tributary streams, and intermittent drainage ways. The majority of the study area is within the lower Chippewa watershed with the southeast portion of the study area lying within the Buffalo River watershed. Each of these basins contain numerous dry runs and other surface drainage features which carry water during spring runoff or during extreme storm events. All of these features have the ability to transport sediment and pollutants, and are greatly affected by land use practices in their watersheds. Center Creek, Little Bear Creek, and Shoe Creek are classified as Class II trout streams. Bear Creek is classified as a Class III trout stream. Two water bodies in the study area are included on the Federal Environmental Protection Agency's list of impaired surface waters. Little Bear Creek is classified as impaired due to habitat destruction and excessive sedimentation. The Red Cedar River is classified as impaired due to high nutrient levels and eutrophication.

The principle sources of potable water supplies in the study area are sand and gravel aquifers. In some areas, potable water is obtained from the highly fractured dolomite formations and from the upper part of the Cambrian age sandstone formations. The source of all groundwater recharge in the project area is precipitation. Between one and ten inches of precipitation, per year infiltrates and recharges the groundwater aquifer. The sand and gravel and limestone aquifers are very susceptible to pollution. In general, groundwater in the study area moves slowly through unconsolidated material and bedrock toward discharge points including the Chippewa and Red Cedar Rivers, terrace-base lakes, and tributary streams.

Biological Resources

At the time of settlement by European immigrants in the mid-1800s, significant portions of the lower Chippewa area were covered by expanses of open woodlands and prairies. The study area once had approximately 113,000 acres of oak forest, 88,000 acres of oak savanna, 64,000 acres of prairie, 20,000 acres of floodplain forest, and numerous other natural communities. Wildlife was abundant. In fact, many of the first European visitors to the area reported great numbers of bison, elk, and wild fowl.

The pre-European settlement landscape has been largely converted to an agricultural landscape with scattered farms, cities, and villages, and an increasing rural residential component. The study area landscape now supports rotational corn/oats/hay agriculture along with some areas of cash crop farming and some pastured or fallow grassland. The acreage of forested land today is only slightly less than the forest acreage when the settlers first arrived. Much of the prairie and savanna acreage was converted to agricultural use. However, some prairies and savannas occurring on steep hills and in floodplains were not plowed. In these areas, the open aspect was maintained for many years by

burning or grazing. However, when these practices ceased, the open areas became brushier and eventually became much smaller in extent.

The biological data collected within the study area comes from many sources. The primary custodian of the rare species and natural community data is the Natural Heritage Inventory section of DNR's Bureau of Endangered Resources. During the 1970's the State Natural areas program conducted a systematic survey of the state to identify remaining natural areas. This survey collected information on many sites within the study area. Although, most of these sites have not been recently inventoried; roadside surveys or air photo interpretation indicate they still exist.

More recent surveys have focused on prairie and savanna remnants in the study area. These surveys were either requested by the landowner or contact with the owner was made prior to conducting the inventory. These recent surveys found many high quality prairie remnants remaining in the area. The species composition of study area sites was compared to composite species lists produced in the DNR Tech Bull. 188 - Plant Species Composition of Wisconsin Prairies, Henderson, 1995 for prairies or the indicator species list developed for savannas published in Restoration and Management Notes Vol. 13:1, 1995. These comparative tools give the biologists a means to assess a site's quality.

In depth surveys were not completed for all prairie and savanna remnants, but those completed attest to the diversity and richness of those prairie and savanna remnants. Air photo interpretation and roadside survey concurrence indicates that over 2,000 acres of prairie are still present in the study area. Additional acres of sedge meadow and wet prairie may occur, but the air photo interpretation work did not search for these natural communities. A comparative air photo interpretation for the towns of Nelson, Canton, Maxville, Durand, and Lima from the 1940 series of photos indicates a 58% reduction in prairie acres. The same interpretation found a 97% reduction in savanna acres (Table3). The reduction in acres occurred primarily due to shrub and tree encroachment into the open areas.

Floodplain forest is predominately a mixture of sliver maple, basswood, green ash, bitternut hickory, and hackberry. Wetter areas contain black willow, cottonwood, and many shrubs, especially buttonbush. Drier areas have more of an oak component with swamp white oak being most numerous, with groves of bur oak, red oak and Hill's oak being common.

Upland woods within the study area are primarily oak/hickory, southern mesic hardwood and aspen forests. Along the Dunn County portion of the terrace are stands of white pine-oak forest and nearly pure stands of jack pine forest. Some of these forests are likely former oak savanna or prairie that were allowed to fill in with trees once fire and grazing were no longer frequent occurrences on the landscape. Plantations of pine or oak/pine have been planted as part of the CRP or other land management programs.

Data for Pepin County forest indicates 13,443 acres of forest are enrolled in tax incentive programs (MFL, FCL, WTL). There are an additional 3,775 acres that have forest stewardship plans. The total of 17,218 acres of forest with formal management plans is approximately 32% of the counties' 53,000 acres of woodland. This percentage has remained nearly constant for the past seven years, but MFL acres have declined, while Forest Stewardship has increased. These plans can incorporate hillside prairies and river savannas into management considerations, and several plans have such recommendations. No breakdown of MFL and Stewardship plan acreages for the other counties in the

study area has been calculated. Portions of these counties within the study area do contain MFL and Stewardship plan tracts. The same management considerations recommended for hillside prairies and floodplain savannas in Pepin County MFL/Stewardship plans have been or can be recommended for plans in Buffalo, Dunn, and Eau Claire counties.

The aquatic communities found in the study area include large rivers, backwater areas, as well as both coldwater and warmwater streams. These features have been inventoried for fish species, freshwater mussel species, and a few aquatic insect groups. A full 70% of the state's fish species are found in the waters of the study area. Numerous mussel species do best above Durand where the substrate is more stable. Four trout streams are found in the area. They are small with limited trout fishing opportunities. The numerous backwater sloughs and oxbow lakes within the study area contain important game fisheries. An estimated 153 species of nesting birds, 45 species of mammals, and 37 species of reptiles and amphibians are known or likely to breed in the study area.

Rare[1]* Species and Communities

The study area includes rare biotic communities which range from the aforementioned small prairie remnants that support rare prairie plants, to high quality floodplain forests that support populations of endangered or threatened birds and reptiles, to fallow grasslands that support populations of the state-threatened Henslow's sparrow. A review of the Department's Natural Heritage Inventory database indicates the occurrence or probable presence of 34 rare plants and 91 rare animals in or near the study area. The Natural Heritage Inventory also indicates the presence of several aquatic and terrestrial sites that possess features and/or communities that are considered to be unique or rare. The complete list of endangered, threatened, and special concern plant and animal species known to occur in or near the study area is included in Appendix A.

Of the 34 rare plant species documented to occur in or near the study area, 14 are listed as endangered or threatened in Wisconsin. Endangered plants include Carolina anemone, beak grass, prairie bush-clover, dotted blazing star, rough rattlesnake root and small skullcap. Threatened plants include musk-root, Hill's thistle, yellowish gentian, silver bladderpod, brittle prickly-pear, clustered broomrape, snowy campion and roundstem foxglove. The remaining rare plants listed are classified as Special Concern species. These species are being monitored and may be considered for future listing as endangered or threatened. Some of the species occurrence records are historical and field investigation would be necessary to determine their current status in the study area.

Of the 91 rare animal species documented in the study area, 33 are listed as endangered or threatened in Wisconsin. Endangered species include the American peregrine falcon, Higgin's-eye pearly mussel, Pecatonica River mayfly, butterfly mussel, yellow sandshell mussel, loggerhead shrike, purple wartyback mussel, and goldeye. Threatened species include Henslow's sparrow, red-shouldered hawk, hooded warbler, Kentucky warbler, Acadian flycatcher, great egret, cerulean warbler, osprey, Bell's vireo, yellow-crowned night-heron, wood turtle, Blanding's turtle, eastern massasauga, crystal darter, paddlefish, blue sucker, river redhorse, greater redhorse, black buffalo, salamander mussel, bullhead mussel,

[1]*note definition of "rare species" on page 3

monkeyface mussel, wartyback mussel, buckhorn mussel, and the wing snaggletooth snail. The remaining rare animals are Special Concern species whose status is being monitored. These species may be considered for future listing as endangered or threatened if or when their existence becomes critically imperiled. As with the rare plant occurrence records, some of the rare animal occurrences are historical accounts. Field surveys would be necessary to determine the current status of those species.

Twenty-seven species of birds known to occur in the study area are listed as Endangered or Threatened, or Special Concern. Their individual habitat requirements are nearly split between forest and grassland. Regionally and locally these species have declined as a result of the loss, fragmentation or degradation of blocks of forest, grasslands, and wetlands. As a group, grassland birds have declined more than any other group of birds. Documented examples include statewide declines of over 90% for the western meadowlark, grasshopper sparrow and dickcissel.

Many of the smaller grassland mammals such as the badger and pocket gopher have adapted well to the agricultural setting, but the larger mammals such as bison and elk no longer exist in this area. In Wisconsin there are seven grassland mammals classified as Special Concern in Wisconsin. Two of those mammals, the Franklin's ground squirrel, and western harvest mouse, are known to occur in the study area.

Many of the reptile and amphibian species present in the study area use or depend on the floodplain wetlands for part of their life cycle. Three rare species, the Blanding's turtle (State Threatened), wood turtle (state-threatened), and the bullfrog (State Special Concern) could benefit from wetland protection in the proposed LCRSNA.

Little is known about the invertebrates of the study area or of Wisconsin's native prairies but very limited surveys and collections have documented 1 endangered species, 1 threatened species, and 26 species of special concern in the study area. There are probably many other rare insects present on the numerous prairie, savanna, and riparian habitats remaining.

The study area also contains several natural areas that are considered to possess unique biologic and/or geologic features. These areas contain nearly intact plant and animal communities, and/or significant geologic features that are considered to be relatively unchanged from pre-settlement times. The designated State Natural Areas located within the study area are Tiffany Bottoms, Caryville Savanna, Fivemile Bluff, and Ninemile Island.

Public Land

There are approximately 20,000 acres of existing state lands in the study area boundary. These areas are managed to provide important feeding, breeding and nesting cover, as well as other habitat values, to a wide variety of plant and animal species. In addition, there are private conservancy areas, which provide similar habitat values.

Table 3. State-owned Land in the Study Area.

Property	Acres Owned	Acreage Goal	Remainder
Big Swamp Wildlife Area	760	857	97
Chippewa River Trail	350	350	0
Dunnville Wildlife Area	3,674	5,707	2,033
Dunn Co. EWHP	268	268	0
Pepin Co. EWHP	293	293	0
Red Cedar River Trail	437	437	0
State Natural Areas	1,354	5,157	3,803
Tiffany Wildlife Area	12,740	15,650	2,910
Total Existing Projects	19,876	28,719	8,843

Major state properties in the study area include the Tiffany Wildlife Area, Dunnville Wildlife Area, Ninemile Island State Natural Area, Big Swamp Wildlife Area, Red Cedar State Trail, and Chippewa River State Trail. Other public lands include scattered state Extensive Wildlife Habitat Program properties, Federal Waterfowl Production Areas and Dunn County Forest. To the south lies the Upper Mississippi River Wildlife and Fish Refuge, and to the north are Muddy Creek Wildlife Area and Hoffman Hills State Recreation Area.

Social-economic Conditions

The following information was obtained from regional and individual county socio-economic, demographic and outdoor recreation plans prepared by the West Central Wisconsin and the Mississippi River Regional Planning Commissions. These reports were supplemented with

information obtained from local county USDA, RC&D, UW Extension, and other land agents that work in the study area.

The proximity of the study area to the Twin Cities metropolitan area, regional population centers, and a well developed highway infrastructure have resulted in significant population growth and development over the past 25 years. This is especially apparent in the Menomonie and Eau Claire/Chippewa Falls urban areas. Commercial, urban, and rural residential development is expected to continue expanding west and southward over time in addition to the constant expansion eastward from the Twin Cities metro area. As this happens, opportunities to protect rare and endangered resources for their inherent value as well as for public education and recreation will decrease or be lost.

Population figures and trends indicate that Eau Claire County's population grew 17.2% between 1970 and 1980, 8.1% between 1980 and 1990, and is projected to grow 8-9% for each decade between 1990 and 2020. Dunn County's population grew 17.7% between 1970 and 1980, 4.6% between 1980 and 1990, and is projected to grow approximately 10% per decade between 1990 and 2020. Pepin County's population decreased 4.9% between 1980 and 1990 and grew 1.4% between 1990 and 1997. It is projected to decrease by 1-2% per decade between 1997 and 2015. Buffalo County's population decreased 5.1% between 1980 and 1990. It grew by 1.1% between 1990 and 1997 and is expected to increase less than 1% per decade through 2015.

The key characteristics contributing to the high quality of life in western Wisconsin include: the diverse scenery, the abundant water resources, the rural and small town life styles, abundance of recreational opportunities, and low crime rates.

Economic indicators (1990) such as per capita income, employment rates, and property values are measures of economic growth in the region. These indicators had higher values in Dunn and Eau Claire counties, especially close to the population centers. In Pepin, Buffalo and portions of Dunn counties where agriculture is the predominant land use, per capita income and property values are somewhat less.

In Eau Claire County service industries, wholesale and retail trade, and manufacturing account for nearly 75% of the employment. Agriculture related employment accounts for less than 4%. Dunn County has services, wholesale and retail trade, and manufacturing which collectively account for nearly 60% of employment. Agriculture related employment accounts for about 12%. In Pepin County; services, wholesale and retail trade and manufacturing account for 30% while agriculture and forestry account for nearly 18% of employment. Buffalo County data shows services, wholesale and retail trade and manufacturing accounting for approximately 39% while agriculture and forestry account for 22% of employment. Agriculture and forest land use cover accounted for 44% and 35% respectively within Buffalo County and 53% and 25% respectively in Pepin County.

The number of farms in the study area has decreased in the last few decades and is projected to remain constant or decrease slightly over the next few decades. The average farm size has fluctuated up and down slightly (+or - 20 acres). Agriculture and forested lands have been and are increasingly being sold for recreational purposes within the study area. Many of these sales have taken large acreage, single owner farmsteads and broken them down to small acreage (40-120 acre) recreational parcels.

Development associated with changes in land use, which may need access roads, electric and possible telephone lines, septic fields and wells, can results in increased costs for providing local government services and therefore create a need for even higher taxes.

Lands are leased for hunting at $10-$12 per acre per year. Trespass and competition for hunting land is becoming more of an issue. Public lands are in more demand because people want more places to hunt and recreate.

Cultural Resources: Archaeological Sites and Historic Structures.

Native Americans first came to this area about 11,000 years ago. Evidence from archaeological sites indicates a growing population over subsequent centuries, with establishment of large villages by A.D. 1000. Here, people found abundant fish and game, and fertile soils suitable for cultivation, and rivers that allowed travel to distant natural resources and social groups with whom they could trade. As descendants of earlier residents moved to other areas, newcomers arrived. In historic times Chippewa and Sioux alternated occupancy of the area through the mid-1800s, then were displaced by Euro-American settlers.

The area contains archaeological sites from all of these groups. The total number of known sites is in the hundreds, and probably a couple thousand sites remain to be discovered. While the significance of these sites varies, there is no doubt that some are eligible for listing in the National Register of Historic Places. Most archaeological sites in this area lie on fairly level ground within a short distance of a significant water source such as the Mississippi River, Chippewa River, Buffalo River, Red Cedar River, or Bear Creek. Other sites probably include ones in caves and rockshelters along the bluffs.

In addition to archaeological sites, the area contains historic structures such as houses, barns, churches, schools, bridges, and town halls. These too, are considered cultural resources and some are eligible for listing in the National Register of Historic Places.

If the proposed project is approved, and planning progresses to the stage of land management implementation, more detailed inventories and analyses of archaeological and historical resources would be conducted in cooperation with the State Historical Society of Wisconsin.

PROJECT DESCRIPTION

Preferred Alternative

This preferred alternative was developed after five alternatives were presented to the public and their comments were received and compiled. Comments from the public indicated a wide range of suggested actions. The most prevalent response was a larger study area and larger acreage goals, followed by larger study area and the same acreage goal, original study area, no action, and smaller boundary and acreage goal. Virtually all the responses, even those preferring no acquisition, indicated a need to protect the resources.

The preferred alternative is proposed because it offers the best array of opportunities to protect the resources and develop partnerships, realizing the state's role as the primary resource protection organization. It is a landscape scale proposal, which includes the goal to protect and manage up to 15,000 acres of natural area and rare species habitat within the 312,000-acre (24 townships) study area.

This study area was proposed because it encompasses:

- A higher concentration of rare species than any other similar sized area in the state.
- The largest intact floodplain forest in the upper Midwest.
- The largest and best-developed floodplain savannas known anywhere.
- More than 25% of all the known native prairie remnants in the state.

Therefore, it provides a unique opportunity to focus resource protection activities and provide a natural resource catalyst for ecosystem management in the study area.

The proposed goal of 15,000 acres is the total acquisition authority. This authority would be in addition to the 5,157 acres of existing State Natural Area within the study area. Numerous land protection possibilities would be used to count towards the total acreage. Current land acquisition projects established by previous Natural Resource Board's would not be affected by this proposal. Presently, 1,354 acres have been purchased as State Natural Areas. Lands within the Tiffany Wildlife Area, Dunnville Wildlife Area, Big Swamp Wildlife Area, Rock Falls Wildlife Area, Red Cedar Trail, and The Chippewa River Trail have their own master plans and acreage goals.

Over the next five years, the Department would place emphasis on the shaded focus areas of Figure 2. These areas are known to meet or have a high potential of meeting Natural Areas' criteria. These areas would be a priority for further study and/or land protection efforts. Landowners with all or a portion of their properties within the shaded focus area could expect a contact from the Department. Most of the landowners outside the focus areas should not anticipate Department contact regarding natural areas inventory or establishment. Landowner

contacts outside the shaded areas would be on a case-by-case basis and apply to sites that contain native prairies or savannas, high quality wetlands, or other unique habitats.

Only certain places in the study area would qualify as State Natural Areas. To qualify any parcel of land would have to meet stringent criteria:

Criteria for Assessing and Establishing New State Natural Areas

Natural Areas are tracts of land or water that contain outstanding examples of native biotic communities. They are often the last refuges in the state for rare species of plants and animals. Significant geological and archeological features may also be found in natural areas. Occasionally sites, which have been more disturbed, but contain high populations of rare species, can also be considered for protection. The very best sites are considered for protection and designation as State Natural Areas, a program administered by DNR's Bureau of Endangered Resources (BER).

The State Natural Areas Program establishes priorities for protecting sites by using a ranking method developed by the Natural Areas Preservation Council (NAPC) and implemented by BER's Natural Heritage Inventory Program. This method of evaluating individual sites and comparing sites to establish a ranking considers several factors, including the site's natural quality, natural community diversity, species composition, degree of human caused disturbance, threats, and rarity. Each factor is evaluated from landscape, site and species perspective by BENR biologists. Evaluations assess the quality, condition, viability, and defensibility of any site's natural features.

An assessment of quality considers factors such as size, maturity, naturalness, and any unique or special biological features compared to other sites. Condition considers whether any human-caused or natural disturbances have had a negative impact on the area and to what extent it has recovered from those disturbances. Viability assesses the long-term prospects for the continued existence of natural features. Defensibility considers the anticipated human pressures that could be placed on a natural feature and whether those pressures can be mitigated.

Geological site priorities are evaluated by working with the Wisconsin Geological and Natural History Survey and polling geology experts throughout the state. Archaeological sites are similarly evaluated by working with the State Archaeologist's office and polling archaeology experts throughout the state.

A landowner in the study area would have the option of discussing the natural area values of their land with the Department. Any consideration to proceed towards protection would be at the discretion of the landowner, but would also have to meet the following protection criteria:

1. The site needs to have a biological assessment to determine the above stated factors.
2. Only highly rated natural communities or extremely rare communities of lower quality would be considered for acquisition or easement (Prairies or savannas should be five acres or more in size or have the potential to reach that minimum size through management),
3. And parcels that contain known rare species populations, or it is adjacent to such a population, and can be readily restored to acceptable habitat that can enhance the survival of the rare species.

Any proposed parcel is submitted to the Natural Area Preservation Council for its recommendation to proceed. NAPC is an advisory council to the State Natural Areas Program that gives guidance and recommendations on potential projects.

After qualification criteria are met, various land protection methods could be applied to provide protection. Through the citizen participation process, several actions were identified that could be used to protect land. While some individuals or groups favored one method over another, the total response indicated many options are needed. Moreover, some of the options would not provide the permanent resource protection needed to be considered a State Natural Area; they would provide a means for landowners to participate in resource protection who do not want to enter into long-term agreements.

The preferred alternative also proposes that the 15,000 acre land protection goal be accomplished using many methods. This would include fee title acquisition or permanent easements held by the DNR or by a variety of partners including other agencies or private conservation organizations. Long-term management agreements could also be considered for lands meeting natural area criteria. It is hoped that DNR grants to NCOs could increase their ability to contribute to the land protection goal. The Master Planning process would help to determine if certain ways of protecting the land should be used in certain situations. For example, some situations may be more appropriate for DNR fee title acquisition, and others may be more appropriate for a NCO to take an easement with the help of a DNR grant.

Range of Protection Options:

- Articles of Dedication. This method involves establishing a deed dedication limiting the use of a property to those designed to preserve special characteristics. The ownership of the deed could be private, a group, or an agency.
- Acquisition Fee Title. This is simple purchase by Federal, State, County, or Non-profit Conservation Organizations.
- Easements. State funds as well as federal funds, NCOs, and local partners can purchase easements limiting some uses of a property and thus protecting important features.

It is envisioned that some places in the study area would have larger blocks of ownership due to the concentration of natural communities or rare species. The known concentration areas are mostly within the floodplain corridor. The remainder of the area would have scattered parcels imbedded within a working private landscape. These scattered parcels would be primarily hillside prairies and savannas, wetlands, and some rare species habitats.

The Department proposes to conduct an Integrated Ecosystem Management (IEM) project on six tributary streams to the Chippewa River lying within the study area. This project would conduct aquatic and terrestrial inventory work along these streams. The IEM would add to the biological data for this feasibility study.

It is also acknowledged that the Department cannot provide the required protection of the resources alone. Partnerships within and outside of the Department would be developed and enhanced to encourage cooperation and assistance in meeting the project goal. Partnership activities could include, but would not be limited to:

- Cooperating with DNR's Wildlife Management, Forestry, Fisheries, Water Resources, and Parks/Trails programs on public and private lands habitat management projects through sharing of grants, equipment, and personnel.
- Continue to work through GMU Partnership Team to seek solutions to resource protection concerns.
- Participating in county land-use decisions which could lead to protecting wetlands and grassland habitat.
- Coordinating land protection efforts with local land trusts and other NCOs.
- Work with local conservation clubs to share resource information and seek ways to blend projects, which maintain game populations and enhance non-game and natural areas.
- Work with various private conservation organizations such as Prairie Enthusiasts, National Audubon Society, The Nature Conservancy, Chippewa Valley Wildlife Society, and others to protect and manage important resources.
- Work with local UW campuses (Eau Claire, Stout, and River Falls) to seek grants and focus surveys and research activities in the study area.

The partnering would relieve any one organization or agency from the burden of being the sole group responsible for resource protection. Several people commented that the package of tools presently available did not quite meet their needs to help in protecting the resources. However, even with identification and protection of every potential natural area, the long-term viability may not be accomplished. Decades from now changes in surrounding land use may limit the movement of some species or adversely impact a site by encompassing it with invasive exotic species. The Department recognizes the need to work with business, educators, and other interest parties to address their needs to fully implement ecosystem

management within the study area. The following recommendations given to the Department by citizens should be considered in the master plan if the project is approved.

- Work with various agencies, municipalities, civic or conservation organizations, educational institutions, corporations or others to obtain funding and staffing (including volunteers) needed to implement the project.
- Cooperate with and assist the Natural Resource Conservation Service (NRCS), Farm Service Agency (FSA), and Mississippi River RC&D in developing study area focused project guidelines for implementing farm programs such as CRP and CREP, wetland reserve, Wildlife Habitat Incentives Program (WHIP), and Environmental Quality Incentives Program (EQIP) programs.
- Work with municipalities to study and address economic and resource sustainability issues.
- Work with industry to identify areas of conflict regarding potential uses for the resources and resolve those conflicts proactively.
- Work with the Farmland Conservancy, Farm Bureau, and other farming advocacy groups to maintain the rural character of the land and search for means to promote resource protection while sustaining farming.
- Assist the legislature in developing incentives for landowners that would help provide natural resource protection.
- Work with the basin educator and local schools to provide information of the natural values found in the study area.
- Develop information and training materials to assist in the interpretation of rare species and natural community management requirements.
- Utilize SNAs as educational and demonstration areas to train private landowners in management techniques needed to protect resources.
- Promote voluntary management of resources, and supply training to individuals, businesses, and non-profit organizations committed to long-term resources protection.
- Facilitate the establishment of a citizens advisory group to assist in project planning and implementation.
- County Land Conservation Commissions in the study area should consider incorporating elements of this study into their Land and Water Resource Conservation Plans.

Acquisition

The Department proposes to establish an acquisition goal of 15,000 acres within the proposed LCRSNA. However, to the extent possible, the Department would use partners to achieve

project acquisition goals. Therefore, the DNR may not, in reality, need to purchase or administer the full 15,000 acres.

Examples of land protection by others that could be counted toward the goal include fee or easement purchases by other agencies, fee or easement purchases by land trusts or NCO's, voluntary permanent deed restriction by individuals, or deed restrictions resulting from implementation of county or township land-use plans. To count toward the goal, each parcel, regardless of who holds the title or easement, would have to meet Natural Areas' criteria, which would be refined during the master planning process. NCO's acquiring easements with Department grant funds generally must allow public access.

The proposed 15,000-acre DNR acquisition goal would be for lands permanently protected through fee title purchase or purchase of perpetual easements. Which of these tools would be used would depend on landowner interest, value of the land, available funding, and other factors such as type of habitat or location.

It is the Department's intent to avoid purchase of Class 1 agricultural land if possible. Class 1 lands may be purchased in situations where they occur as small inclusions within larger parcels of less productive land. If a viable piece of Class I agricultural land is purchased, the Department would, if possible, sell back the land with easement restrictions or would enter into a farming agreement so that the land would remain in agricultural production and adjacent natural area lands would be protected from incompatible development.

Most lands purchased in fee title by the Department under SNA authority would be open to public uses typically allowed on state-owned land, including hunting and trapping, scientific study, nature study, hiking, and wildlife viewing. Lands purchased under other authorities could count toward the goal if the appropriate habitat is provided, but might have different uses allowed. Additional discussion of appropriate uses could be undertaken during the master planning process.

Easements purchased by the DNR under SNA authority would include the right to develop and manage prairie, savannas, or wetland. Such easements may not include the right for public access. Experience in easement purchases elsewhere in the state has shown that the value of an easement including both the management and public access rights is so close to the fair market value that it simply makes the most sense to purchase the land outright. Therefore, it is highly unlikely that easements including access rights would be purchased under this program.

Land Management

Natural Areas management would focus on six different aspects of the protection needs: Floodplain forest management, savanna (including those in the floodplain), prairie and wetland management, rare species management, unique or rare natural communities, and buffer land management.

Floodplain forest management would consist of maintaining a forested condition on the silty alluvial soils capable of growing floodplain trees. Many areas would be protected to provide the habitat needed by rare bird species. Other areas could have some harvest to promote tree species composition that would be more indicative of a given site's capability. Invasive exotic species would be removed using the recommendations in the DNR Invasive Species Control Guidelines.

Some areas may be well served by remaining in private ownership and having their forest enrolled in the Managed Forest Law or in the Forest Stewardship Program. These programs could provide tax benefits, incentives and cost-sharing opportunities to landowners for sound forest practices. The determination of which options are best for any site would be the result of landowners' objectives and the results of inventories.

Savannas, wetlands, and prairies would be managed using a variety of techniques that would either reinstate a fire regime, complement the fire regime, replace part of a fire management program or utilize different techniques to keep areas open and promote certain combinations of species. The primary influence on the landscape for the past 5,000 to 6,000 years (until the mid-1880s) had been frequent fires predominantly set by Native Americans. Other factors also influenced the landscape to a much lesser extent. Large ungulates (elk, deer, and bison) grazed the area; diggers (badgers, pocket gophers, and foxes) created small disturbance patches; and Native Americans tilled areas for crops. From the time of European settlement to the 1940s, fires were less frequent, but still set with enough frequency to maintain many open areas. Since the 1940s, fire suppression has resulted in removal of fire from nearly all the landscape.

Fire management would be applied to lands under public ownership or easement. This management would proceed carefully and cautiously. The primary element in any fire management program is safety. Human safety and property are the foremost concerns when developing any burning regimes. Any site would be evaluated to determine the extent, intensity, frequency, timing, and alternatives to burning before implementing any burning program. The DNR works with neighbors, townships, counties, and local fire Departments any time a burn is considered. The first burns on any new site are usually conducted under conditions that burn away some of the built-up fuels. Other types of management or alternatives that could be employed on a site basis are brush cutting, herbicide application, mowing, grazing, or hand-pulling of weeds.

The habitat requirements and sensitivity of the species present would determine management for rare species. For example, to benefit a species that requires extensive forest, a parcel may need a selective harvest to accelerate growth of desirable tree species, or planting to enlarge the area of forest. Grassland species may benefit by brush removal or planting buffers next to the prairie to be planted with prairie species to expand habitat availability.

Unique or rare habitats most likely need only protection from destruction or development to provide adequate management. Encroachment by invasive exotic species would require monitoring and removal.

Buffers would be a minor component of the proposed project. The focus would be on high quality natural areas or rare species habitat. Buffers would most likely be purchased if a landowner did not want to divide tillable land out of an acquisition or a divided portion such as a forty would contain a small amount of tillable land. In these cases, the site would be assessed for its buffering values, and if they are needed to enhance the natural community or rare species habitat, then they will be restored to the appropriate natural community. Forested tracts would be planted with native tree species suited to the particular site, and historic prairie sites would be re-seeded with native prairie plants that should occur at the site.

New grassland plantings would use native grasses. Initially, existing non-native grasslands would be maintained, but a long-term goal may be to convert those fields to native grasses. The preference would be to use local ecotype native seed when possible. A forb component in the native grasslands would also be encouraged. The buffer parcels would not be the primary target of any acquisition, but circumstances could result in some scattered throughout the proposed LCRSNA.

Once established, management would be undertaken to maintain the vigor of the grasslands and minimize encroachment by brush and trees. This would be accomplished through use of prescribed burning as well as chemical treatment and mechanical brush removal. In addition, the potential for the use of limited haying and grazing would be explored. Prescribed burning would occur according to Department policy and would be coordinated with local emergency services and fire departments. Burning would be done in such a manner that it did not create public health or safety controversy. In all likelihood, tree and brush removal on small prairie remnants in developed areas would be by mechanical means rather than burning. Prairie remnants could be used as seed sources to increase the amount of local ecotype seed available.

In remnant oak savannas, brush and undesirable trees would be removed and prescribed burns would be conducted to restore the species composition and vegetative structure of an oak savanna. Oak trees would be planted in an attempt to restore oak savanna.

Partnering

This project proposes to work with several partners, both public and private, within and outside of the DNR. The partners could provide permanent land protection; could cooperatively pool funds for acquisition, development and management costs through cost-share programs and grants; and could provide labor (paid or volunteer) to help accomplish work needs.

Within the DNR, rare and endangered species and habitat protection opportunities could occur on state trails, fisheries areas, watershed projects, natural areas, and wildlife areas. In addition, protection and management could occur on other state and federal program lands such as EQIP sites.

The local DNR and Fish and Wildlife Service field staff have developed a close working relationship managing both public and private lands in and near the study area including sharing personnel and equipment, and teaming up for grants that will benefit both. It is anticipated that the USFWS would continue to partner as a neighbor to this proposed project. Other potential governmental partners could include, US Department of Agriculture, the Wisconsin Departments of Transportation and Agriculture, and counties, towns, cities, and villages.

In addition, there may be several NCOs interested in assisting with land acquisition and management including, but not limited to; Pheasants Forever, Ducks Unlimited, Wisconsin Waterfowl Association, National Wild Turkey Federation, The Prairie Enthusiasts, The Wisconsin Farmland Conservancy. These groups would probably provide a source of funding and volunteer labor to conduct management work in this area.

The Department recognizes that there would be opportunities for partnering, as well as a need for assistance from partners if the goals of the proposed LCRSNA were to be met. Therefore, developing partnerships and finding ways to most effectively meet mutual goals would be a very important component of the LCRSNA and would be emphasized in planning for project implementation.

PROJECTED COSTS

Acquisition

Projected Land Acquisition Costs

For acquisition cost estimation purposes, the proposed 15,000 acre project is divided into two general categories. Six thousand acres are considered to be upland and possibly have

development potential. The feasibility study team determined from local land sales that $1,000 to $1,200 per acre is the price being paid for this type of land. For cost estimation purposes, $1,200 per acre is used. The team determined that $500 per acre is the average price being paid for bottomland or land within a floodplain designation. Nine thousand acres of the 15,000 in the proposed project would be in this category.

This estimation is based on fee purchases of the whole 15,000- acre proposed project. Acquisition of easements on various sites would reduce the cost of acquisition. The amount of easement acquisition would depend on the level of projection needs for a particular site as well as the willingness of the landowner to sell an easement and retain the property tax liabilities of the parcel.

Thus 6,000 acres of upland @ $1,200 per acre equals: $7,200,000

9,000 acres of bottomland @ $500 per acre equals: $4,500,000

Total estimated acquisition: $11,700,000

It should be noted that these estimates were derived using "1999 dollars." It can be expected that average land values will increase over time due to inflation and market conditions.

Tax Impact

When the Department of Natural Resources acquires land, two events occur. First, the Department begins payment-in-lieu of taxes and secondly, the land is removed from the tax rolls and the state aid formula reacts to this.

Payment-in-lieu:
According to State Statue 70.11 (1), property acquired by the Department is removed from the tax rolls. According to State Statue 70.114, effective January 1, 1992, the Department of Natural Resources pays aids-in-lieu of taxes on all lands the agency acquires. The aids-in-lieu payment is made to the taxing jurisdiction and is equal to property taxes that would have been paid had the land remained in private ownership. It should be noted that land purchased by the Department prior to January 1, 1992, is on separate aid payment schedules and procedures.

The only difference between the new DNR aid-in-lieu-of-tax program and private land relates to the assessed value. To avoid the need for local assessors to continually assess DNR property and for the DNR to review and possibly appeal assessments, the initial assessed value is set at the DNR purchase price of the property, which is based on the appraised market value. Subsequently, this value is adjusted to reflect the change in the assessed value of land in the taxation district. The first year payment is actually based on an adjusted purchase price.

All other aspects of the way DNR pays aid-in-lieu-of-tax under this new program are the same as those for a local taxpayer.

The program works like this:

1.) In the year of purchase (e.g. 1999), regular property taxes are paid as determined in the closing transaction. The seller pays a prorated share and the DNR the balance.

2.) For the following year (e.g. 2000), the assessed value of the property is the purchase price as determined by certified appraisals. In cases where the acquisition is at other than market value, such as a donation, the assessed fair market value for the year preceding the purchase is used.

3.) The Department adjusts the purchase price to reflect the change in the assessed value of all land in the taxation district. The adjustment rate is supplied by the State Department of Revenue. The adjustment factor is used to calculate a current "assessed value". In addition, the adjusted "assessed value" is equalized. The equalization rate is provided by the Department of Revenue. The "equalized assessed value" is then used to calculate the aid payment.

4.) In December (e.g. 2000), the Department gathers the general property tax rates for the current year (e.g. 2000) for all the taxing jurisdictions from the taxation district clerk.

5.) On or before January 31 of the next year (e.g. 2001), DNR calculates and pays the taxation district treasurer the aid-in-lieu-of-tax payment. The amount is calculated by multiplying the equalized adjusted assessed value by the appropriate tax rates.

6.) On or before February 15 (e.g. 2001), the taxation district treasurer pays each taxing jurisdiction (town, village, or city; school; Vocational/Technical College; County; State of Wisconsin; and special districts) its appropriate share of aid payment.

Thus, under this program the Department of Natural Resources pays a fair share of aid on lands it purchases.

State aid formula impact:

When the state acquires land, the land is removed from the tax rolls for the purposes of calculating state aid to local governments. How the state aid formula reacts to this change may result in an increase or decrease in local taxes. For example, if aids increase as a result, local property taxes would be decreased to compensate for this increase in revenue.

The largest impact is on the school, township, and county tax portions of the property tax. State of Wisconsin (Forestry Mill Tax) and Vocational/Technical College tax rates have little or no change.

In previous tax impact studies for Department land acquisition projects, the change on an average residential property tax bill, say $70,000 improvement, has been +/- $1-$2.00 for the overall tax bill. This assumes that there are no changes in spending, tax rates, or aid formulas for the townships.

With regards to this project, based on a number of assumptions, state land acquisition of 500 acres in three townships in the study area has the impact of lowering property taxes on residential property valued at $50,000 to $75,000 by $2 to almost $4 annually. This lowering of taxes results from increased state aid to these townships. (See Tax Impact Study in Appendix B).

Land Management

Following approval of the proposed project as outlined in the Feasibility Study, a master plan would be prepared to address development, operations and maintenance, and staffing in detail. Therefore, the following topics are discussed here in broader, generalized terms.

Costs involved with operation and maintenance of the grassland, wetlands, and public use facilities would be dependent on the type of property, its size and the practices needed to meet the objectives for its management. Volunteer agreements with landowners and NCOs could also affect responsibilities for maintaining particular properties. Therefore, the cost estimates below are generalized.

Development:

Development of newly acquired or eased properties would primarily consist of boundary identification and firebreak development. Buffer land or connecting corridors between rare species habitat would be restored prairie, savanna, or forest as opportunities arise. Fencing would be limited to what is needed to comply with boundary fence laws, and to protect the land from public abuses such as off-road vehicles. Lands owned in fee by the Department would be posted accordingly. Low maintenance public use facilities such as parking lots are not anticipated, but may be considered on a case-by-case basis. No trash containers would be provided, but periodic litter pick-up would be conducted as part of other duties.

Estimated costs for development if the Department would purchase or take easements on the entire 15,000 acres are:

Fencing	100,000
Signing	10,000
Buffer prairie restoration – 200 acres @ 150/acre	30,000
Buffer forest/savanna restoration – 500 acres @ 300/acre	150,000
Public use facilities i.e., parking lots	15,000
Total:	$205,000

Maintenance:

The property maintenance objectives would be to apply the natural disturbance techniques that keep the prairies and savannas in a functioning state. Prescribed burning would be the main tool used, but mechanical brush cutting, herbicide treatments, and agreements with farmers for mowing or grazing could also be used. Maintenance of parking lots, fences and signs would also be needed.

Estimated annual costs for maintenance if the Department would purchase or take easements on the entire 15,000 acres are:

Prescribed burning: 1000 ac/yr @ $2/ac	$ 2,000
Mowing brush: 200 ac/yr @ $7/ac	1,400
Herbicide: 100 ac/yr @ $6/ac.	600
Equipment purchase and maintenance:	15,000
Site and easement inspection and maintenance:	1,000
Fencing/posting inspection and maintenance:	1,000
Total:	$22,000

Note: This is a total estimate, which would apply once the entire 15,000 acres were under Department control. Initially, the costs would be less but would increase as additional lands were purchased. The actual costs to the Department would depend on how much assistance external partners provide.

Staffing

As proposed, the Lower Chippewa River State Natural Area would clearly be an example of integrated ecosystem management and utilizing public partnerships. Both of these principles are goals of the Department, but it is also clearly an ambitious proposal, which requires a look

at staffing needs to accomplish the project. Due to the workload and staffing changes, which have occurred in the DNR, the current permanent staff along with LTE's would be able to handle the initial land management workload associated with the SNA. However, additional real estate staff could be needed to handle an increased volume of land transactions. In addition, a one-half time LTE would be needed to make landowner contact, present informational materials, and answers questions. One-half time LTE would be needed to conduct inventories, conduct training sessions, assist in management of prairies and savannas, and provide guidance to landowners. Once significant acres of land were acquired and the volume of ongoing management needs increased, we anticipate that one permanent position would be needed, as well as 2-3 additional Limited Term (LTEs) or Project Employees.

Partnering is an essential part of the proposed project, and there would likely be opportunities to work with an increasing number of partners to help accomplish the project goal. We anticipate that developed partnerships would continue and possibly expand, and would be a major contributor to meeting project goals. In addition, several local private conservation organizations have formed that have an interest in prairie and savanna management. These groups have a great potential for providing volunteers to assist the Department with its management efforts.

The proposed project would involve numerous partnerships. Partnering with landowners and providing guidance and training to cooperators would require a great deal of effort. This type of approach requires more initial work, but long-term costs and benefits are anticipated to be worthwhile. A staff person might be needed to coordinate partnership development and activities. This could include recruiting, training, and supervising volunteer crews who could provide substantial assistance with habitat management. Cultivating such partnerships would take time and effort that the existing biologists and technicians might not be able to provide. However, in the long run these partnerships could reap large benefits to the Department and the biologic resources we are concerned with protecting.

Estimated annual costs for increased permanent and temporary personnel would be approximately $50,000 for a new permanent position at the Conservation Biologist classification, $35,000 for two one-half time LTE positions and $35,000 for 3 six-month LTE positions (including salary and benefits). The total estimated staffing costs would be $120,000 annually.

Funding

Funding would come from Department program funds; the Knowles-Nelson Stewardship Program (through June 30, 2000); Stewardship 2000 Program (after June 30, 2000); US Fish and Wildlife Service (NAWCA grant) programs; easement and cost sharing dollars from the priority watershed program; funds from NCOs; and gifts and grants from individuals,

corporations, foundations, and conservation organizations. To the extent possible, the Department would use partners to achieve project objectives. Establishing the LCRSNA project should enhance the ability of the Department and partners to compete for grants which could help fund acquisition, habitat restoration and maintenance.

Primary land acquisition funding prior to July 1, 2000 would come from the Knowles-Nelson stewardship Program that was signed into law by Governor Thompson in 1989. On July 1, 2000, the Stewardship 2000 Program replaces the Knowles-Nelson Stewardship Program. Governor Thompson signed this program into law in 1999. This program provides $46 million statewide each year for land acquisition and development for a ten-year period.

Funds to develop and restore new wildlife habitat would likely come from existing DNR funding accounts such as Pheasant Stamp, Turkey Stamp, and Waterfowl Stamp. Additional funds could come through the North American Waterfowl Conservation Act (NAWCA) grant program, and from contributions from organizations such as Pheasants Forever, Ducks Unlimited (MARSH program) and Wisconsin Waterfowl Association. Funding for operations and maintenance would be expected to come primarily from the segregated Fish and Wildlife Account. Endangered Resources funding could be used to maintain prairie/savanna remnants. Permanent staffing costs would also be likely to be funded through the Fish and Wildlife Account, but LTE funding could come from any of the sources listed.

ENVIRONMENTAL EFFECTS AND THEIR SIGNIFICANCE

Physical Impacts

There would be physical impacts to the landscape as a result of the proposed project. Lands purchased by the Department, as well as other parcels preserved under easements or volunteer agreements would be actively managed to restore, and maintain prairies and savannas. This would involve removing brush and other weedy trees from native prairies and savannas. Some wooded areas could also be converted to oak savanna with widely spaced trees. Some buffer lands would be planted to native trees or prairie. While many of these changes would be subtle, over time a change in composition of vegetation cover types on the landscape would be noticeable. Perhaps more important, if lands were protected over time, the effects of incompatible man-made developments across the landscape of the project area would be decreased.

The use of prescribed burning and herbicides as vegetation management tools would result in impacts to the landscape. Most impacts would be temporary, however, these practices could generate some public concern. Prescribed burns would be carefully controlled to minimize the chance of fire spreading to neighboring private lands. Careful control and planning would also

be necessary to avoid inconveniencing rural neighbors with smoke. Herbicides would be applied to sites only if other methods were not feasible and would be applied on a short-term basis when necessary. These herbicide applications would be by properly authorized personnel in accordance with appropriate safety precautions. Inconvenience and concern related to the use of these management tools (e.g. smoke or herbicide drift) is not anticipated to be a significant problem in the rural setting of the project area.

Construction of new fences, removal of old fences, and removal of old structures is anticipated to comprise the majority of development activities. They could cause some minor, very localized site disturbances. It is possible that a few small parking areas could be developed. In these cases the disturbances would be temporary, and off-site impacts would be avoided or minimized by utilizing appropriate erosion control and site restoration practices.

Overall, physical impacts to the landscape that would result from activities associated with the proposed project would be small in scale and distributed across the project area over a period of many years. Dramatic changes in the appearance of the landscape would not be likely. Over time, the cumulative impact of protection blocks of floodplain forest and maintaining patchwork of prairie and savanna across the landscape would be expected to compliment the rural setting that exists now.

Habitat and Wildlife Impacts

The natural biotic diversity and ecological integrity of the former prairie/oak savanna landscape and existing riverine ecosystem within the study area are rapidly declining. Residential, industrial, and agricultural development pressures are increasing on upland sites; residential development and woody species invasion are overtaking hillside prairie sites; and forest is encroaching on island and floodplain savanna sites.

Overall, the integrity of the floodplain forest should improve as acres of wooded pasture and small lowland fields slowly convert to a wooded condition. Nevertheless, extrinsic biological factors and past land and river management practices have altered species composition and diversity of the community (see Environmental Description Section). Reintroduction of fire should reduce total coverage of prickly ash thickets and of the invading exotics, buckthorn and honeysuckle. But many extrinsic factors and practices have been so major (Dutch elm disease, dam construction along the Chippewa River, and increase of the deer herd) that implementation of the preferred alternative would be unable to change them.

Implementing the proposed landscape scale natural area project would preserve and protect remnants of native prairie and oak savanna communities on upland, lowland, and hillside sites. It would also protect blocks of floodplain forest. DNR biologists and their partners would target high quality rare plant community examples existing in the project area for purchase or other protection as appropriate. They would also buffer these examples from incompatible

adjacent uses by protecting surrounding areas. In addition, excellent opportunities exist to restore degraded communities on public and private lands. For example, former oak savannas that have converted to brush or woodland, or have been overgrazed, can be restored and maintained with relative ease.

A mixture of cropland, grassland, woodland, and wetlands is beneficial to many plant and wildlife populations. Large blocks of nearly continuous forest are beneficial to many others and functioning hillside prairies of mixed sizes are important to still more. This proposed project would provide permanently protected grassland and wetland habitat, hillside prairie and large blocks of floodplain forest in a predominantly rural area. By protecting this terrestrial and riverine habitat, the assemblage of rare animals and plants that inhabit the area would also be protected.

The proposed geographic scope of this project would make it the largest State Natural Area project ever undertaken. However, the establishment of State Natural Area projects in areas that warrant protection is not a precedent setting action. The State Natural Area program in Wisconsin was started in 1951. Since that time, 328 State Natural Areas have been established across the state. The cumulative effect of establishing this network of natural area sites has been the preservation of many examples of Wisconsin's native landscape and biota. The proposed project would serve to protect several additional critical nodes of biodiversity within the landscape of the lower Chippewa River valley, thus enhancing the positive impact of the State Natural Area system.

Social and Economic Conditions

There may be some changes over time in the social and economic conditions of the project area if the LCRSNA proposal is implemented. These changes would be primarily due to an increased public land base, and accompanying increase in public uses of those lands. As stated previously, such changes would not likely be dramatic or occur in a short time period. However, the cumulative effect of establishing a patchwork of scattered natural areas across a broad geographic area and the increase in public uses on those lands would likely be noticeable over time.

The proposed project would impact very little of the agricultural land base and operations in the project area. The Department, working in conjunction with its partners, proposes to protect, through fee title or easement purchase, approximately 15,000 acres of rare and endangered species habitat in the project area. This could involve the purchase of agricultural land incidental to acquiring specific Natural Area sites, or for buffering significant sites. Most of this agricultural land could stay in agriculture production. In addition, within portions of the Chippewa River floodplain corridor, marginal farmland might be acquired and

subsequently converted or restored to forested wetland to re-establish larger blocks of contiguous forest to enhance habitat for rare species.

It is the Department's intent to avoid fee title purchase of Class 1 agricultural lands. The Department would prefer to use conservation easements or voluntary agreements as preferred approaches for protecting that category of land. It is possible that Class 1 lands could be purchased in fee title in situations where small amounts of such lands occur within or adjacent to larger tracts of less productive land that may also have natural area values. However, acquisition of such lands would be pursued only where it is clear that the land in question would otherwise be converted to non-agricultural use, or where the property is considered essential to the purpose of the project. If viable tracts of Class 1 agricultural land are acquired incidental to the purchase of other lands, the Department would attempt to re-sell agricultural land with easements or deed restrictions. This action would allow agricultural use but preclude incompatible non-agricultural development.

It is expected that grassland and savanna habitat restoration would enhance the aesthetic appeal of many sites within the proposed project area. Adding more habitat and cover type diversity would enhance the existing patchwork of hillsides, river terraces, lowlands, wetlands, and croplands that many people consider aesthetically pleasing. The planting of native prairie grasses and wildflowers would also contribute to the scenic quality of managed areas.

Land values in most of the study area will likely continue to increase over time primarily due to the rising demand for rural residential properties and recreational land. Since the Department buys land only from willing sellers, and negotiates real estate transactions based on market appraisals, it is not expected that DNR land acquisition would significantly influence land values in the area if the project is implemented. The project would, however, protect ecologically sensitive sites from development and preserve open space. Owners of land with natural area values, who may not be interested in selling, would also have the options for protecting their land for future generations via the use of conservation easements or legal natural area dedication. These options would be consistent with interests expressed by various landowners attending the study's public open house meetings and commented on the proposal. Preservation of ecologically sensitive sites would also be consistent with the expressed desires of other citizens, various public and private agencies, and the state and federal studies and initiatives that have looked at the resources in this area.

The Department would make a payment in lieu of taxes in accordance with Section 70.114 of the State Statutes on all lands purchased in fee title. As such, there should be negligible impact on the local tax revenue for local government units within the project area. It is possible that the values (and thus tax rates) of some private properties located adjacent to larger parcels of public land could be affected. In some circumstances, the value of properties adjacent to a block of public land may increase due to the perception that the recreational opportunities and solitude provided by the public lands are positive amenities. At this point, it is not possible to

predict where and to what extent these scenarios could occur. However, it likely would not be a widespread occurrence.

The effect of perpetual conservation easements on the tax base is also difficult to predict. State law requires local assessors to consider the effect of conservation easements on the value of property. In theory, the existence of a perpetual conservation easement would reduce the value of a given property to some degree. If a significant number of these situations developed in a township, the tax base could be reduced to some extent. The tax impacts of lowering the assessed value of land could be perceived as a positive point for individual landowners, but might be a concern to township and county governments. However, based on past experiences, we know of no case where assessed property values have actually changed as the result of Department easement acquisition. This would indicate little, if any, tax impacts based on this proposal.

In recent years, the conversion of family farms into large production-oriented agriculture operations, or into recreational/residential properties, has also impacted the social and economic conditions in the study area. Interaction among neighboring landowners is not as common as it once was, and concerns about unlawful trespass are increasing. As a result, there are fewer opportunities for citizens to gain access to private lands for hunting or other forms of recreation.

Implementation of the proposed project would result in an increase in public land in this area over time. Eventually, this would provide a significant increase in public open space and recreation opportunities. Hunting as well as other compatible educational and recreational pursuits would be allowed on Department-owned lands. Past experience has indicated that the amount of use on newly established public lands is dependent on the quality of hunting and other recreational pursuits available, size and accessibility of particular parcels, and distance from population centers. Given the proximity of the project area to regional population centers and the population growth in western Wisconsin, it can be assumed that recreational use of public lands in the proposed project area would be significant.

The establishment of new tracts of public land in areas that have been in private ownership for generations could result in occasional property boundary discrepancies and disputes. These issues typically come up when the ownership and use of land changes. Property boundary discrepancies involving newly purchased state lands would need to be handled on a case-by case-basis. Negative impacts of increased public use in the project area could include minor, generally seasonal increases in road traffic and noise and occasional problems with individuals trespassing on private properties adjacent to public lands. Increased public use would most likely occur during hunting seasons, with comparatively light use during the rest of the year.

Legal dedication of some parcels may require adjustments in the siting process for utility and transportation corridors. The anticipated effects of such dedications are minimal, because the

parcels should be small and scattered. Furthermore, the siting process requires more than one alternative for alignment, which should permit consideration of alternatives around any dedicated lands. Any proposed legal dedication requires an environmental assessment and affected parties would have opportunities to comment on the impacts of the action. Siting requests on non-dedicated lands would progress under the legal review process at the time of the request.

Safety issues associated with firearm hunting should not change significantly from existing conditions, as hunting currently takes place on private and public lands within the project area. In addition to hunting, more public land in the area would provide opportunities for other low-impact recreational activities as well as for education and research. Increased public recreation in the area could bring increased revenues to local businesses that provide goods and services to the visiting public.

Archaeological and cultural resources in the project area could benefit due to the protection of certain land parcels. The Department would coordinate with the State Historical Society to ensure that known sites of archaeological and historical significance in the project area would be considered and protected in the course of land or easement acquisition, establishment of voluntary agreements, and while conducting management operations. New potential sites of cultural or historic interest discovered during identification and inventory of land acquisition and management focus areas would be reported to the State Historical Society. If sites of significance could be impacted by Department activities, the Department would comply with Section 106 of the National Historic Preservation Act by submitting site information and plans as appropriate to the State Historical Society for review.

Summary of Adverse Impacts that Cannot be Avoided

In summary, the adverse impacts that cannot be avoided as a result of this proposed project include:

1. Loss of small amounts of active cropland and pasture land in the proposed project area that would be purchased incidental to acquiring or buffering a targeted natural area.
2. Some increase in traffic and noise could be noticeable in the vicinity of larger tracts of natural area lands that would receive use during the fall hunting season.
3. Some small scale, temporary soil and land cover disturbance would be associated with natural area site clean-up, access development or control, and habitat management activities.
4. Occasional situations involving property boundary discrepancies and trespass incidents where new natural area properties are established adjacent to private lands.

OTHER ALTERNATIVES CONSIDERED

In its Five Year Land Acquisition Plan approved in 1996, the Department outlined its intent to consider landscape scale natural area opportunities. Five sites were identified as locations for the Department to conduct feasibility studies. The lower Chippewa River study area was one of those sites.

In addition to the preferred alternative which is described and analyzed in detail in this document, the following range of alternative scenarios have also been evaluated for the proposed project.

No action

This alternative would mean that Department activities in the study area would remain as is. Existing DNR properties would maintain their acquisition authority within existing boundaries. Three wildlife areas – Tiffany, Dunnville, and Big Swamp – have a combined acreage goal of 22,214 acres with 5,038 remaining to be acquired. The Red Cedar and Chippewa River Trails are partially within the study area boundary and comprise 787 acres with no additional acres remaining to be acquired. Four State Natural Areas projects – Ninemile Island, Thompson Lake, Chippewa Island, and Golden Valley Bluff - occur within the study area and have a combined 5,157 acreage goal with 3,783 acres remaining to be acquired.

This alternative would not authorize the Department to acquire and protect the rare and unique habitats located beyond established project boundaries. Other efforts such as land trust acquisition, voluntary natural area management by private landowners, and local zoning regulations could result in additional protection. However, with no concerted effort to preserve, protect, and manage prairies, savannas, unique habitats and rare species habitat, throughout the landscape, the Department expects the continued loss and fragmentation of native prairies and savannas, and overall declining trend in habitat diversity and wildlife populations would continue. None of the physical and socio-economic changes directly associated with the project would occur.

Some people who commented on this study supported this alternative. The reasons for their support were a concern that the Department already owns too much land, and a desire for more land protection options, which do not involve government administration or oversight.

Smaller Study Area Boundary and Smaller Acreage Goal

With this alternative, all land protection efforts would focus on a smaller area. The immediate Chippewa River corridor and its nearby surroundings have been more thoroughly inventoried and, therefore, better information exists about the diversity and concentration of habitats in this smaller area. The concentration of known rare species habitats appears to be greater in the

river corridor and on nearby hillside prairies. With this smaller study area a reduced acreage goal of 12,000 acres was considered.

A few people favored this approach because it focused activities in a more recognizable area. The primary protection emphasis would be the same with DNR, partners, and landowner incentives all playing a role. However, in a smaller geographic area there would be greater difficulty in establishing viable partnerships and recruiting volunteers and funding for land protection projects.

Original Study Area Boundary and Acreage Goal

In 1996, a five-year Acquisition Plan was developed by the Department and approved by the Natural Resources Board. This plan was considered a starting point for discussions and analysis. The original study area boundary was drawn to encompass the river corridor and hillsides known to contain prairies. Biological information was the sole criteria used to determine the hillside area and river corridor boundary. Based on preliminary investigations of resources in the area, an acquisition goal of 15,000 acres was suggested. These acres were proposed to be added on to the existing projects.

Many people agreed with the proposed 15,000 acres as being a reasonable goal for protection. However, several comments from people at the open houses, and several written comments received, questioned the rationale of the study area boundary. These respondents did not have many suggestions for the exact location of the boundary, but they did say the boundary should follow recognizable features on the map. This alternative was not chosen primarily due to the confusion over the location of the study area boundary.

Larger Study Area and Acreage Goal

This alternative would establish a larger more easily recognized boundary. It would also expand the Department's land protection goal, and give the Department the primary responsibility to acquire, protect, and manage the prairies, savannas, and other rare species habitats within the expanded study area. An interpretation of air photos has indicated a goal of approximately 27,000 acres in addition to the existing projects would be needed to protect all the probable prairies, savannas, and other unique habitats within the large study area boundary.

The highest number of respondents to the alternatives favored this expanded acreage goal. These people stated a concern that all prairies and savannas are very rare and need protection. However, State Natural Areas are designed to protect the best examples of natural communities. It is most likely that not all the sites identified via air photos in the expanded area would contain the species composition or other characteristics needed to qualify as a potential State Natural Area. The protection of these sites would be better accomplished by private individuals, conservation groups, or through incentive programs to landowners.

Other State Locations

Other places in the state have opportunities for prairie protection, but no other comparable area has 25% of all the known native prairie remnants. Other places in the state have opportunities for savanna protection, but no other area in the state or entire Midwest has large expanses of floodplain savanna. Other places in the state have opportunities for floodplain forest protection, but no other area in the upper Midwest has an opportunity to protect the largest intact floodplain forest. Other places in the state have opportunities to protect rare species habitat, but no comparable area can protect habitat for as large and diverse a concentration of rare species habitat as that in the lower Chippewa River study area.

Each of the other potential locations offers opportunities to manage unique and important resources and is worthy of protection in its own right. However, the lower Chippewa River study area is comparable to these areas in terms of individual species or natural communities, and it is superior when considering the diversity and concentration of resources - especially those that are rare and vulnerable.

Alternative Land Control Mechanisms and Site Selection Strategies

In addition to the proposed project location, size and acreage alternatives presented above, the Department has also identified various alternatives for habitat protection strategies, which apply to any of the action alternatives above including the preferred alternative.

Following are the various types of mechanisms and strategies, which could be used by the Department for protection of prairies, savannas, forests, and rare species habitat. Various combinations of the listed mechanisms and strategies could be used to achieve project objectives.

Land Control Mechanisms:

- Fee title acquisition of lands: The Department would purchase the land and all associated rights.

- Purchase of habitat management easements: The Department would purchase the right to permanently manage the land as grassland and/or wetland habitat, but the land would remain in private ownership. The owner could maintain control of public access or the Department could purchase public access rights.

- Fee and easement purchases by other entities using DNR grants and cost sharing.

- Long-term Management Agreements (LTAs) with cooperating landowners. These instruments do not provide permanent protection.

- Conservation programs, such as Environmental Quality Incentives Progam (EQIP), Wildlife Habitat Improvement Program (WHIP), and state programs such as priority watersheds, and Stewardship Incentive Programs can provide dollars to help landowners manage their lands to protect rare and sensitive areas.

Site Selection Criteria:

- The candidate site needs to have a biological assessment by a qualified biologist to determine if it qualifies as a State Natural Area or rare species habitat area.
- Highly rated natural communities or extremely rare natural communities of lower quality would be considered for acquisition or easement.
- Prairies or savannas must be five acres in extent or larger or have the potential to reach that minimum through management. These areas would be native prairie remnants and not restoration of cultivated agricultural lands.
- A parcel could also be considered for acquisition or easement if it contains known rare species populations, or if it is adjacent to such populations and can be readily restored to a habitat that would enhance the survival of the rare species.

PUBLIC INVOLVEMENT

Comments Received

Since June 1998, the Department has been conducting this feasibility study and citizen participation effort to find out how stakeholders and other customers feel about the proposed LCRSNA concept. Over this period of time, DNR staff has contacted several hundred people in person or through the mail to inform them about the proposal and to get their reaction. The following is a summary of what they said. Over 110 individuals or groups have responded in writing to date. Hundreds more expressed their thoughts and concerns to the team members directly at numerous public meetings, study presentations, and discussion sessions as well as during individual contacts made since June 1998. Of those, the vast majority are in favor of the proposal, less than 10% are opposed, and a similar number are neutral or expressed no opinion at all.

Following the initial issue scoping and after formulating project alternatives, all those on the mailing list, open house attendees, and others received a description of the alternatives and a

form to use to evaluate them. Forty-six alternative evaluation forms were returned. Of these, 20 respondents favored the larger boundary, 14 wanted the original boundary, 7 voted for the no action alternative, and 3 wanted a smaller boundary. It is interesting to note that 3 of the 7 no action votes indicated a willingness to work with the Department to manage their special sites.

In regards to acreage goal; 19 wanted the increased acreage (27,000 acres), 14 indicated the original acreage goal of 15,000 acres, 8 stated purchase should occur only in existing project boundaries, and 3 indicated a decrease in the acreage goal to 12,000 acres.

In regards to the Protection Methods to be used, the majority of respondents favored having all of the methods listed available to implement the proposal. When asked which methods should be emphasized, respondents listed: long-term management agreements, fee title acquisition, and grants to non-profit organizations (NCOs) as the top three methods. These were followed by: purchase of development rights, acquisition of management agreements, articles of dedication and the other category (various renewable programs like CRP and EQIP).

The respondents were evenly distributed between landowners and non-landowners.

Issues:

The LCRSNA proposal has stimulated comments on a wide array of issues. These issues have been categorized into 8 general statements. No attempt has been made to classify which are the most important as all are important to the individuals who mentioned them. Also, while two individuals or groups may express a concern about a particular aspect of the proposal, they may not be on the same side of the issue. As an example, the " Hunting " category included concerns about public access to (or trespass on) private lands, too many people hunting in the area, and non-landowners stating they wanted more public land on which to hunt. Similarly, the " Access to Land " category addressed concerns about how much and what type of access would the public have to the natural areas.

The following list identifies issues presented in no particular order:

- Boundaries / Acreage:

  Individuals for the larger boundary also seemed to be in favor of the larger acreage or at least the minimum original acreage. Many wanted the boundary to follow township and section lines for clarity sake. A number of concerns were listed for this increase. The most popular of these concerns was development of these areas, which would be irreversible. Individuals who chose the no-action route were concerned with the idea that the Department is trying to take on too many projects at once. These individuals also show concern that the DNR already owns too much land in various areas.

- Study Area Use:

Individual comments ranged from stressing protection and improvement of water quality by promoting good land stewardship to management activities should not be allowed to push out hunters. Some indicated some areas (rare sites) should be outright purchased…they should be open to public access for education and recreation.

- Economic / Tax Concerns:

Some stated the Department "must protect the local tax base now and in the future with state revenues revised frequently." Others suggest tax relief of some type for participating landowners. Some feel that too much DNR land hurts the township tax role. Some landowners want renewable contracts similar to the CRP program… " We would like some way to secure financial benefit for sound management of our land…we are concerned that soon there will be nothing left." Most felt that the Department should "make sure method (land protection tools) used are cost effective and provides long-term or permanent protection of the land. They want the DNR to use all the preservation tools available.

- Ecological Concerns:

Comments ranged from " Hope this will help to save this precious open space for future generations to enjoy " to " once people see the benefits… there are actually landowners who will come asking for help to protect their land." Add "areas of unique ecological significance or those highly susceptible to destruction." "Flora and Fauna that are endangered or unique to the area should be protected."

- Development:

One person expressed what many were telling us with…" Much development will be occurring in the next 20 years, setting land aside now will help to maintain for the future." Another indicated that "We need to think and plan in terms of centuries." Finally, this person expressed what many others were indicating…" Establishing the Lower Chippewa River State Natural Area is a prudent move in an increasing urban-sprawl dominated landscape. Since the land mass between Eau Claire and Minneapolis / St. Paul is experiencing pressure from development and urban encroachment, it seems reasonable to preserve as much as possible now." Or as another person stated…" Once they develop the land with roads and infrastructure, it's really hard to do any good. Stop them before they come and wreck it all."

- Hunting / Access to Land

Many said hunting rights should be maintained. Private landowners enjoy deer and small game hunting on their property and do not want other hunters trespassing on their land. In addition, some landowners lease hunting rights to their land on a yearly basis and similarly do not want others trespassing on the land. Non-landowners want more public land in the area to hunt, but, at the same time, do not want a large number of other hunters around competing for available game. In addition, there are a number of other recreational, educational, and scientific goals to be met by this proposal. It is apparent that many diverse needs and wants have to be addressed while maintaining the primary goal of protection of the resource.

- Education

The Department must continue its role in working with the university system, local high, middle, and elementary schools and private entities in educating the public about the rare resources in the area. All citizens need to understand and appreciate the special natural resources in the lower Chippewa River basin.

The public involvement process began in June 1998, when the planning team met and identified potential stakeholders. To date, nearly 450 stakeholders have been identified and contacted through various media.

The first newsletter went out June 26, 1998, and covered a variety of topics including: background on the rare and endangered species found in the Chippewa River Valley, Wisconsin's Natural Areas Program, the feasibility study purpose and process, and information on the first public open house meeting dates and locations.

The second newsletter went out Sept. 8, 1998, and covered public comments to that time, preliminary management goals, methods available for resource preservation, protection, and enhancement, rare species information, and future meeting dates.

The third newsletter was distributed on Nov. 24, 1998, and covered public opinions on the goal and methods, the 5 study boundary and acreage goal alternatives and a questionnaire on the alternatives. The initial questionnaire responses have been compiled and evaluated in preparation of the draft document. See summary in Email dated: 1-7-99, entitled: Results of Alternatives Evaluation Form and Preliminary Preferred Alternative.

In addition to the mailings: newsletters, brochures, study area maps, and other study information were distributed to libraries, UW Extension and agricultural offices throughout the study area. To date, 3 sets of public open house meetings have been held to discuss the study proposal and detail covered in the newsletters and other media items.

The following is a log of public participation:

Study Area Concept Presentations/Contacts

- Lower Chip. GMU Partners Meeting; June 17, 1998, Core Team
- Public Open House in Eau Claire; July 14, 1998, Core Team
- Public Open House in Durand; July 15, 1998, Core Team
- Lower Chip. GMU Partners Meeting; July 16, 1998, Core Team
- Buffalo County Conservation Club; July 21, 1998, Dave Linderud
- Buffalo County Fair; July 7-9, 1998, Dave L.
- Pepin County Board; July 15, 1998, Chris Widstrand
- Townships of Durand and Waterville; Aug. 12, 1998, Chris Widstrand
- Durand City Council; Aug. 13 1998, Chris Widstrand
- Lower Chip. GMU Partners meeting; Aug. 20, 1998, Core Team
- Paula Kleinjes - UWEC professor, Aug. 25, 1998, Randy Hoffman
- Public Open House in Eau Claire; August 29, 1998, Core Team
- Lower Chip. GMU Partners Meeting; Aug. 30,1998, Geo. Meyer & Core Team
- Public Open House in Durand; Sept. 1, 1998, Core Team
- Lima Town Board, (5 members present) Slide-tape presentation and discussion, no objections to the proposal, some questions on allowable land use and impact on taxes, Sept. 3, 1998, C. Widstrand
- Terry Balding - UWEC Professor, Sept. 8, 1998, Randy Hoffman
- Fred Lesher, Chippewa Valley Motor Car Club-Durand; Sept. 10, 1998, Randy Hoffman
- Ron Hurlburt, (landowner with 4,600 ac. in study boundary) , Sept. 11, 1998, R. Hoffman
- Albany Town Board; Sept.13, 1998, (5 people) Chris Widstrand
- Alma Rod and Gun Club, Sept. 14,1998, (25 people) Dave Linderud
- Mondovi Rod and Gun Club, Sept.16, 1998, (30 people) Dave Linderud
- Dunn Co. Conservation Alliance; Sept. 17, 1998, John Cole
- Farm Progress Days display, Sept 22-24, Core Team
- Menonomie Middle School presentation on LCRSNA, Sept. 28, 1998,

R. Hoffman

- Terry Balding, student project, Sept. 29, 1998, R. Hoffman
- Presentation to four-county (Buffalo, Pepin, Dunn, and Eau Claire cos.) Ag. Agency reps., Sept. 30, 1998, R. Hoffman
- GMU Partners meeting with G. Meyer, Sept. 30, 1998, Core Team
- Two-hour tour with Geo. Meyer, Sept. 30, 1998, R. Hoffman and Core Team
- NSP FERC Relicensing Team slide-tape presentation, Oct. 1, 1998, T. Lovejoy
- Prairie site inspection with Bob Brunkow, Oct.1, 1998, R. Hoffman
- Farm Bureau member discussion re: LCRSNA and upcoming Dunn Co. Farm Bureau resolution opposing DNR acquisition of farm land, Oct.7, 1998, J. Cole
- Farm Bureau meeting and discussion regarding DNR acquisition and management of former farm land, (80 people) vote on resolution was 45 for and 6 against proposing a ban on DNR purchase of farm land, Oct. 13, 1998, D. Linderud and B. Krochmalski
- UWEC and Stout faculty (13 people) , presentation well received - favor concept, Oct. 22, 1998, R. Hoffman
- Slide-tape presentation and discussion with Chippewa Valley Wildlife Society, (17 people), presentation well received, favor concept, Oct. 21, 1998, M. Ries
- UW River Falls- Conservation Class (33 people) , enthusiastic response, Oct. 22, 1998, J. Cole
- GMU Partners/Team meeting (8 people) discussion of study alternatives, socio-econ data, Oct. 26, 1998, Core Team members
- UWEC and Stout faculty, discussed grant application-surveys, Oct. 29, 1998, R. Hoffman
- Chippewa Valley Mayors and Rep. B. Gronemus, (38 people) slide-tape and discussion, Oct. 29, 1998, Chris Widstrand
- Farm Bureau - Buffalo Co. past and current president, LaVae Wantoch and Angie Bork , Oct. 30, 1998, D. Linderud
- Planning, Development and Conservation Committee of Dunn Co. Board (18 people) neutral response, Nov. 3, 1998, John Cole
- Slide presentation and discussion with Western Wisc. Woodland Owners Assoc., a local chapter of the Sierra Club, and Western Wisc. Chapt. Of Prairie Enthusiasts, (70 people) very positive response, Nov. 4, 1998, R. Hoffman
- Prairie Enthusiasts newsletter, Ries interview with Marilyn Kanne, Nov. 6, 1998
- Big River News article, Randy Hoffman and Dave Linderud interview with Pam Eyden, Nov. 11 & 13, 1998
- Sierra Club - Jim Olson discussion with Dave Weitz, Nov. 11, 1998

- Slide/tape presentation and discussion with Friends of the Red Cedar and Chippewa River Trails (20 plus people) basically favored, Nov. 30, M. Ries
- Buffalo Co. Board's Ag and Extension Education Com. (5 members) , no comment on proposal, Dec. 1, 1998, D. Linderud
- Steve Lindstrom, Nelson Town Chairman, study background, wants Dave to attend Jan. Board meeting, Dec. 1, 1998, D. Linderud
- Doug Mueller, Eau Claire Co. Farm Bureau Pres., study information, Dec. 1, D.Weitz
- Mrs. Bork, Buffalo Co. Farm Bureau, received newsletter but didn't read it, invited to Dec. 9 public meeting (didn't attend), no comment on study, Dec. 2, 1998 D. Linderud
- Loren Hanson, Dunn Co. Farm Bureau, study background and invitation to Dec.9 open-house, too busy with state-wide farm bureau meeting to attend, expressed minimal interest, Dec. 4, J. Cole
- Nature Conservancy presentation, (25 people attended) very positive response with a formal statement coming, Dec. 4, 1998, R. Hoffman
- Spring Brook Town Board study presentation and discussion (5 members present) cordial but few comments and no position offered, Dec. 8,1998, J. Cole
- MRRPC, Dave Bonifas, requested information for his MRRP Commission presentation, Dec. 8, 1998, M. Ries
- Public Open-house meeting in Durand to discuss the Alternatives, Dec. 9, 1998, Core Team
- Alma Town Board, (5 members) discussed a variety of study related topics, but, took no position or vote on the concept, Dec. 9, 1998, D. Linderud
- Rock Creek Town Board (5 board members, 4 public) some favored, some opposed DNR acquisition although favor preservation, Dec. 10, 1998, J. Cole
- Peru Town Board (4 board members, 2 public) supported natural area concept and did not oppose DNR acquisition of land, Dec. 14, 1998, J. Cole
- Maxville Town Board, (4 members and 4 citizens present) slide-tape and discussion, concerned about tax impact, not against proposal overall, want draft plan to go to all government units especially township for review and comment, approved the annual burning ordinance Jan,1 - May 31, Dec. 15, 1998, D. Linderud
- Dunn Co. Farm Bureau-Board of Directors, (6 members present) cordial and asked questions without taking a position, Jan. 5, 1999, J. Cole
- Eau Claire Parks Association, (5 members present) Slide-tape presentation and discussion, very interested and supportive of concept, Jan. 7, 1999, M. Ries
- Congressman Kind's office representative Jeff Stein, discussed proposal and sent newsletters and other study information to update Congressman Kind, Jan. 7, 1999, M. Ries and R. Hoffman

- Town of Frankfort chairman, Bob Anderson, discussed proposal and offered to give presentation to town board, he'll get back to Chris if interested, Jan. 19, 1999, Chris Widstrand
- Dunn Town Board, (4 members & 2 citizens attended) Slide-tape and discussion, chairperson and 2 citizens expressed support, not stated opposition, asked a number questions about taxes, willing sellers, and uses, Jan. 12, 1999, J.Cole
- Town of Canton Chairman, Robert Wittig, study background and update, Jan. 12, 1999, D. Linderud
- Menomonie Town Board, (5 members & 3 citizens) slide-tape and discussion, neutral in response, concern about purchasing ag. land, asked a number of questions, Jan. 14, 1999, J.Cole
- Town of Modena Chairman, Arnold Ness, study background and update, Jan. 22, 1999, D. Linderud
- Eau Claire Park and Waterway Committee, Jan. 27, 1999, M. Ries
- Natural Resources Board – Informational Item, Oct. 27, 1999, R. Hoffman

Media Contacts

General Press Releases:

- Introduction of study and open-house meeting announcement; June 29, 1998.
- Invitation to land owners to have site inspection by DNR; July 21, 1998.
- Notice for second set of public open-house meetings; Sept. 11, 1998
- Notice of GMU Partners meeting with G. Meyer; Sept. 21, 1998
- Notice for second set of public open house meetings; Sept. 22, 1998
- Notice of third open house meeting; Nov. 24, 1998

Newspapers and Agency / Club Newsletters (reporter)

- Dunn Co. News, study beginning and meeting notice, (staff) July 1, 1998
- Mondovi Herald News, study beginning and meeting notice, (staff) July 2, 1998
- Durand Courier Wedge, study underway and meeting notice, (staff) July 8, 1998
- Eau Claire Leader Telegram," DNR may create nature preserve,"(Joe Knight) July 7, 1998
- Chippewa Herald Telegram," DNR may create nature preserve," (staff), July 13, 1998
- Mondovi Herald News, "Citizen cooperators," (staff) July 23, 1998
- Durand Courier Wedge, "Citizen cooperators," (staff) July 23, 1998

- Pepin Co. FSA Newsletter, study beginning and meeting notice, July, 1998
- Rock Falls Sportsmen Newsletter, study beginning and meeting notice, July, 1998
- The Country Today," State Natural Area Promoted," (Sam Robbins) July 29, 1998
- Dunn Co. News, "Development of Land Makes Impact on Nature," Aug. 19, 1998 (Vern Holm)
- News article for Buffalo Co. FSA Newsletter; Sept. 1998
- News article for Pepin Co. FSA Newsletter; Sept. 1998
- News article for Dunn Co. FSA Newsletter; Oct. 1998

  NOTE: FSA Newsletter distribution to local landowners: Buffalo Co. - 1,600, Pepin Co. - 1,100, Dunn Co. - 1,000?
- Durand Courier Wedge, public meeting notice, Sept. 10, 1998 (staff)
- Pepin Co. UW-Extension Farm Management Newsletter article on LCRSNA study and public open house meetings; Sept, 1998, (Bob Cropp, Ag. Agent)
- Durand Courier Wedge, LCRSNA background information from news release and public meeting notice, Sept. 24, 1998 (staff)
- Mondovi Herald News, G. Meyer to attend 2 meetings in Durand regarding the Lower Chippewa, Sept 24, 1998 (staff)
- The Country Today, open-house meeting notice, Sept. 23, 1998 (staff)
- Dunn Co. News, LCRSNA background information from news release and public meeting notice, Sept. 27, 1998 (staff)
- Buffalo Co. Farm Service Agency (FSA) LCRSNA background and public meeting notice, Sept. 1998 edition
- Buffalo Co. UWEXT. Newsletter, public open-house meeting notice, Sept. 1998 edition
- Leader-Telegram," DNR aims to save prairie," Sept. 30, 1998 (Carrie Brown)
- Milwaukee Journal Sentinel, "Remnant prairie near Eau Claire is subject of study," Oct. 1, 1998 (AP)
- Dunn Co. Farm Bureau News, resolution opposing DNR acquisition of farm land and lease back proposal, Fall 1998
- Leader -Telegram, "Natural area on the agenda of Chippewa Valley Wildlife Society meeting," Oct. 16, 1998
- Dunn Co. News, Farm Bureau: "DNR shouldn't buy land; lease it to farmers," Oct. 15, 1998, (Wally Smetana)
- The Country Today, " Public input sought on Lower Chippewa Natural Area," staff, Dec. 2, 1998
- The Courier-Wedge, " Open House to explore Chippewa River study alternatives," staff, Dec. 3, 1998

- Keeping Current by UWExt. "Study Underway on Lower Chippewa River State Natural Area," staff, Oct.-Nov. 1998 issue
- Leader - Telegram, "Protect Area" by Professor Charles Bomar, in Voice of the People, Dec. 7, 1998
- Big River Newsletter, "The Lower Chippewa River-A Natural Treasurer", by Pamela Eyden, Dec. 1998 issue
- Common Ground Newsletter of the Wisconsin Farmland Conservancy, "Saving a Little Piece of Paradise," by Rebecca Kilde, Fall & Winter 1998 issue
- Leader-Telegram, "DNR Proposes to Buy, Lease Land" October 30, 1999, by Joe Knight.

Radio:

- B-95 Radio, Eau Claire; June 30, 1998
- B-95 Radio, Wisconsin Today Program, - Eau Claire; July 12, 1998
- State Public Radio, statewide broadcast; July 13, 1998
- WAYY Radio, Eau Claire; July 13, 1998
- WRDN Radio, Durand; July 14, 1998
- Public Radio, Eau Claire; July 14, 1998
- B-95 Radio, Eau Claire; Sept. 22, 1998, Ries interview
- WAXX Radio, Eau Claire; Sept. 28, 1998, Hoffman interview
- WWIB Radio, Eau Claire; Sept. 28, 1998, Ries interview
- WAXX Radio, Eau Claire; Nov. 4, 1998, Hoffman interview
- WRDN Radio, Durand; Dec. 9, public meeting announcement

Television:

- TV-13 - TV-13 Outdoors with Dave Carlson - Eau Claire; June 28, 1998
- TV-13 - News broadcast - Eau Claire; June 28, 1998
- TV-13 - Morning News - Eau Claire; July 13, 1998
- TV-13 - 6 p.m. News - Eau Claire; July 13, 1998
- TV-18 - 6 p.m. and 10 p.m. News - Eau Claire; July 13, 1998
- TV-3 - 6 a.m. and 7 a.m. News - Madison; July 13, 1998
- TV-15 - 6 a.m. and 7 a.m. News - Madison; July 13, 1998
- TV-13 - 6 p.m. and 10 p.m. News - Eau Claire; Sept. 28, 1998

- TV-13 - 6 p.m. and 10 p.m. News - Eau Claire Sept. 29, 1998
- TV-13 - Dave Carlson Outdoor Calendar, public meeting announcement, Dec. 4, 1998

GMU Partners Role in Study Information Dissemination

- Article in UW-Extension Newsletter, slide-tape presentation, Tom Quinn
- Presentation to Friends of the Beaver Creek Reserve, in-house information dissemination, Pam Rasmussen
- Information dissemination to Buffalo Co. landowners who have prairies, Bob Dreislein
- Information dissemination to Rod and Gun Clubs in area, stress hunting opportunities, Bob Brunkow
- Info. dissemination to farm management groups, newsletter articles, one-on-one discussions, Bob Cropp
- Parent/student group and Diocese of La Crosse slide-tape presentations, Jim Forster
- Shared information with local officials, one-on-one contacts, John Egli
- UWEC (15 students) appeared supportive of the study proposal, Dec. 6, 1998, Darren Lochner

Future Efforts:

Future Management Plans:

The Department would work with landowners, public and private agencies, and other affected entities to insure coordination of efforts and programs. It would be aware of potential impacts the proposal may have on other projects both within and outside of the agency. The Department would work with these entities to resolve any concerns or problems, which may arise. All stakeholders would be kept informed as the study progresses, and, if it becomes a project, these same entities would be a part of the planning and decision making process. Similarly, the stakeholders would be involved with the implementation and management of the project to the extent that is reasonable and possible.

If the proposed project is approved, a master planning process would be initiated to more specifically address development and long term management of the LCRSNA. Public involvement techniques to be used during the master planning process would include mailings, surveys, public meetings, and small group presentations and discussions. A collaborative approach to decision-making, including stakeholder participation, would be used to encourage

coordination, cooperation, and conflict resolution by all planning participants. This would also encourage information sharing and development of a common knowledge base to enable the comprehensive ecosystem management for this proposed landscape project to be realistically balanced with human and environmental interests.

EVALUATION OF FEASIBILITY

There are a number of key issues and challenges that would determine the success of this proposed project. First, the Department's action must be based on sound legal authority, complying with applicable laws and codes, and the mission of the agency. Second, the proposal must be ecologically sound. Third, the Department has to have the support of the public and the opportunity to create cooperative agreements and partnerships with other public and private entities in order to meet mutual goals for resource protection, restoration, and enhancement. And finally, the Department must have the financial resources and personnel needed to carry out the proposed project.

The Lower Chippewa River State Natural area proposal is consistent with the state statute (Ch.23.27, Wis. Stats.) and administrative code (NR 1.32) that created the State Natural Area Program. The LCRSNA as proposed is also consistent with the integrated ecosystem management principles and biodiversity guidelines included in the Department's mission.

The research reports, field inventory findings and historic accounts cited in this document verify the remarkable diversity of landscape features, water resources, and plants and animals contained in the study area. This body of evidence, when compared to knowledge of other biologically significant parts of Wisconsin, gives credence to the proposed project concept, location and scope. Significant areas of high quality native habitats, both aquatic and terrestrial still exist on the lower Chippewa River landscape. These habitats still support viable populations of many rare species of plants and animals. Opportunities for restoring degraded areas of native habitats, and thus expanding or securing the populations of many rare species, are also abundant. Given these considerations, landscape-scale ecosystem management and principles of biodiversity such as habitat connectivity and fragmentation, species diversity and resilience, and protection of critical habitat base can all be addressed through this proposal. Therefore, it is the opinion of Department staff that the LCRSNA proposal is ecologically sound.

Support of the proposed project by external partner agencies and the general public is critical. During the citizen participation element of this planning process, Department staff have identified and communicated with numerous potential partners and cooperators. These entities are numerous and include other agencies, county and township governments, industries, agricultural producers, non-profit conservation organizations, local landowners, and interest

groups. In fact, the planning of this proposal was used to launch the formation of the Lower Chippewa GMU's external partner team. The team members represent many of the interests listed above, and several are residents of the project study area. The external partner team has the potential to become involved in many phases of the proposed project, and most importantly could serve as a link between the Department and the public to exchange information and facilitate public involvement throughout project implementation.

Public enthusiasm for the proposed project has been expressed on a number of different fronts. Conservationists are excited about maintaining the remnant prairies, savannas, floodplain forests, and other unique natural communities in the study area. Educators recognize the opportunities within this study area to provide for ecological research and education, and the chance for the public to get involved and develop ties to the land. Prairie enthusiasts are particularly interested in the potential to expand grassland ecosystems. Fishing and waterfowl interests recognize the benefits of preserving the aquatic habitat and water quality of the Chippewa River and its tributaries. Avid birders and casual nature observers like the idea of preserving habitat to sustain populations of rare grassland, wetland and forest songbirds. Hunters appreciate the possibility of linking existing public lands along the river corridor and providing additional public hunting opportunities. Many individuals have pointed out opportunities to tie this project in with other types of preservation and management efforts like land trusts and land-use planning, and appreciate what it could do to maintain open space and a rural landscape.

Controversy over the location, scope and intent for the proposed project has been minimal so far. Some individuals have expressed concerns that publicity associated with the project and establishment of new public lands would open up the area to detrimental levels of public recreational use and private land development, thus jeopardizing the remote, rural qualities which made the area unique in the first place. While it is likely that the area would experience some increase in human use pressure as a result of the project, the increase would not be expected to be significant in the context of circumstances that are already beginning to change the social and landscape characteristics of the study area. If the proposal is not implemented, human pressures would continue to change the character of the lower Chippewa River region, and a chance to preserve the unique landscape and biologic features that make the area special will be lost. There have also been some indications of controversy over the Department's policy regarding purchase of agricultural lands. For this proposed project, the Department's intention would be to avoid purchasing actively managed agricultural lands in most circumstances. Some amounts of agricultural land could be acquired incidental to the purchase of targeted lands, which met natural area criteria. If viable parcels of highly productive agricultural land are acquired in this manner, the Department could attempt to lease or re-sell such parcels to operators who would continue to use the land for agricultural production. The Department would also consider purchasing active agricultural land parcels that are located within the floodplain of the river, with the intention of restoring such lands to native floodplain forest and savanna cover types. Given the ample base of agricultural land in the study area,

incidental acquisition of scattered parcels of agricultural land over time would not be expected to cause a noticeable negative effect on agricultural operations and agri-business in the project area.

Therefore, based on the amount of positive public support expressed thus far, the lack of significant controversy, and the numerous opportunities for involving external partners, it appears the proposed project is definitely feasible from the standpoint of public support and partner involvement.

A primary concern regarding the adoption or implementation of this proposed project has to do with budget and staffing needed to acquire and manage new properties effectively. Concern over the funding of new projects, while possessing limited resources to manage existing projects, is an issue of public interest. As the lead agency, the Department would need the funding to acquire and manage the new lands as proposed. This is a key issue and challenge, and given the number of unknowns at the current time, one that may not be able to be completely resolved during the course of this feasibility study.

It is anticipated that limited initial acquisition funding would be available from the current Knowles-Nelson Stewardship Program, which expires on June 30, 2000. However, the majority of the funding for the first ten years would come from the Stewardship 2000 Program that begins July 1, 2000. Alternative acquisition funding sources, such as grants from federal agencies and NCOs would also need to be pursued. A successful acquisition effort would also require sufficient staff resources to accomplish landowner contacts, appraisals, negotiations, and closing proceedings in a timely manner. Funding for restoration and management of acquired properties would likely come from existing DNR funding sources including Natural Areas, Pheasant Stamp, Turkey Stamp, Waterfowl Stamp, and segregated fish and wildlife accounts. If a significant long-term workload develops due to the acquisition, restoration and management needs for a substantial amount of property, one permanent, full-time equivalent position may need to be established to oversee the project.

At present, it is believed that existing staff and funding will be sufficient during the first years of the project. However, a lack of stable, long-term resources could jeopardize the ability to maintain sufficient staff and operating funds to meet project management needs once significant amounts of land were acquired.

After considering the information presented above, Department staff believe that the Lower Chippewa River State Natural Area project is feasible from the standpoint of legal authority, ecological soundness, public support, and availability of initial funding. It is anticipated that long-term funding for the project will become available as a result of Stewardship Program reauthorization and a focus on identifying other funding alternatives. Therefore, Department staff, recommend that the Lower Chippewa River State Natural Area proposal be approved.

Appendix A

Rare Species found in Lower Chippewa Study Area

The following rare species are known to occur in the Lower Chippewa Study Area. They are listed from the rarest species globally to the least rare at the state level. The numbers following the species refer to the Natural Heritage Inventory ranking and the letter T or E to signify whether the species is listed by the state as threatened or endangered.

Common Name and Listing Status	Scientific Name	NHI rank
Higgin's Eye Mussel -E (Federal E)	*Lampsilis higginsii*	G1S1
Pecatonica River Mayfly - E	*Acanthametropus pecatonica*	G1G2 S1
Prairie Bush Clover - E (Federal T)	*Lespedeza leptostachya*	G2 S1
Salamander Mussel – T	*Simpsonaias ambigua*	G2 S2S3
Spectacle Case – E	*Cumberlandia monodonta*	G2G3 S1
Bullhead (mussel) – T	*Plethobasus cyphyus*	G3 S1
Crystal Darter – T	*Crystallaria asprella*	G3 S1
Hill's Thistle - T	*Cirsium hillii*	G3 S2
Monkeyface - T	*Quadrula metanevra*	G3 S2
Brook Snaketail	*Ophiogomphus sp.*	G3 S?
Smoky Shadowfly	*Neurocordulia molesta*	G3 S2
Greater Redhorse - T	*Moxostoma valenciennesi*	G3 S2S3
Lake Sturgeon	*Acipenser fulvescens*	G3 S3
Blue Sucker - T	*Cycleptus elongatus*	G3 S3
Clustered Poppy Mallow	*Callirhoe triangulata*	G3G4 S2S3
Round Pigtoe	*Pleurobema sintoxia*	G3G4 S3
Butternut	*Jugulans cinerea*	G3G4 S3
Prairie Fame-flower	*Talinum rudospermum*	G3G4 S3
Elusive Clubtail	*Stylurus notatus*	G3G4 S3
Western Sand Darter	*Ammocrpta clara*	G3G4 S3
Rough Rattlesnake-root - E	*Prenanthes aspera*	G4 S1
Small Skullcap - E	*Scutellaria parvula var parvula*	G4 S1
Clustered Broomrape - T	*Orobanche fasciculata*	G4 S1
Peregrine Falcon - E	*Falco peregrinus*	G4 S1
Wartyback - T	*Quadrula nodulata*	G4 S1S2
Buckhorn Mussel -T	*Tritogonia verrucosa*	G4 S2
Cerulean Warbler - T	*Dendroica cerulea*	G4 S2
Eastern Massasauga - T	*Sistrurus catenatus*	G4 S2
Snowy Campion -T	*Silene nivea*	G4 S2
Roundstem Foxglove T	*Agalinis gattingeri*	G4 S2
Yellow Gentian - T	*Gentiana albe*	G4 S2
Butterfly Mussel - E	*Ellipsaria lineolata*	G4 S2

Paddlefish - T	*Polyodon spathula*	G4 S2
Pallid Shiner-E	*Notropis amnis*	G4 S2
Mottled Dusky-wing	*Erynnis martialis*	G4 S2
River Redhorse - T	*Moxostoma carinatum*	G4 S2S3
Henslow's Sparrow - T	*Ammodramus henslowii*	G4 S2S3
Showy Lady's Slipper	*Cypripedium reginae*	G4 S2S3
Blanding's Turtle - T	*Emydoidea blandingii*	G4 S3
Rock Clubmoss	*Lycopodium prophilum*	G4 S3
Shadowy Goldenrod	*Solidago sciaphila*	G4 S3
American Bittern	*Botaurus lentiginosus*	G4 S3
Dickcissel	*Spiza americana*	G4 S3
Black Tern	*Chlidonias niger*	G4 S3
Gorgone Checkerspot	*Chlosyne gorgone*	G4 S3
Goldenseal	*Hydrastis canadensis*	G4 S3S4
Bald Eagle	*Haliaeetus leucocephalus*	G4 S3S4
Dotted Blazing Star - E	*Liatris punctata var nebraskana*	G4G5 S1S2
Brittle Prickly Pear - T	*Opuntia fragilis*	G4G5 S2
Wing Snaggletooth - T	*Gastrocopta procera*	G4G5 S2
Great Indian Plantain	*Cacalia muehlenbergii*	G4G5 S2
Dusted Skipper	*Atryonopsis hianna*	G4G5 S2
Cobweb Skipper	*Hesperia metea*	G4G5 S2
American Beak Grain - E	*Diarrhena americana*	G5 S1
Silver Bladderpod - E	*Lesquerella ludoviciana*	G5 S1
Yellow-crowned Night-Heron - T	*Nyctanassa violacea*	G5 S1
Great Egret - T	*Casmerodius albus*	G5 S1
Carolina Anemone - E	*Anemone caroliniana*	G5 S1
Black Redhorse	*Moxostoma duquesnei*	G5 S1
Loggerhead Shrike - E	*Lanius ludovicianus*	G5 S1
Purple Wartyback - E	*Cyclonaias tuberculata*	G5 S1
Arrow-headed Rattlebox	*Crotalaria sagittalis*	G5 S1
Yellow Sandshell - E	*Lampsilis teres anodontoides*	G5 S1
Hooded Warbler - T	*Wilsonia citrina*	G5 S2
Goldeye - E	*Hiodon alosoides*	G5 S2
Kentucky Warbler - T	*Oporornis formosus*	G5 S2
Northern Goshawk	*Accipiter gentilis*	G5 S2
Lark Sparrow	*Chondestes grammacus*	G5 S2
Wilcox Panic Grass	*Panicum wilcoxianum*	G5 S2
King Rail	*Rallus elegans*	G5 S2
Black-crowned Night-Heron	*Nycticorax nycticorax*	G5 S2
Silky Prairie Clover	*Dalea villosa*	G5 S2
Water Purslane	*Didiplis diandra*	G5 S2
Dragon Wormwood	*Artemisia dracunculus*	G5 S2
Wild Licorice	*Glycyrrhiza lepidota*	G5 S2

Muskroot - T	*Adoxa moschatellina*	G5 S2
Fragrant Sumac	*Rhus aromatica*	G5 S2
Northern Harrier	*Circus cyaneus*	G5 S2
Great Copper	*Lycaena xanthoides*	G5 S2
Russet-tipped Clubtail	*Stylurus plagiatus*	G5 S2
Black Buffalo - T	*Ictiobus niger*	G5 S2
Prairie Dandelion	*Nothocalais cuspidata*	G5 S2
Bell's Vireo - T	*Vireo bellii*	G5 S2
Timber Rattlesnake	*Crotalus horridus*	G5 S2S3
Speckled Chub	*Macrhybopsis aestivalis*	G5 S2S3
Acadian Flycatcher - T	*Empidonax virescens*	G5 S2S3
Wild Indigo Dusky-wing	*Erynnis baptisiae*	G5 S2S3
Wood Turtle - T	*Clemmys insculpta*	G5 S3
Red-shouldered Hawk - T	*Buteo lineatus*	G5 S3
Louisiana Waterthrush	*Seiurus motacilla*	G5 S3
Least Bittern	*Ixobrychus exilis*	G5 S3
Grasshopper Sparrow	*Ammodramus savannarum*	G5 S3
Yellow Evening Primrose	*Calylophus serrulatus*	G5 S3
Orchard Oriole	*Icterus spurius*	G5 S3
Autumn Coralroot	*Corallorrhiza odontorhiza*	G5 S3
Prairie Sagebrush	*Artemisia frigida*	G5 S3
American Eel	*Anguilla rostrata*	G5 S3
Pugnose Minnow	*Opsopoeodus emiliae*	G5 S3
Weed Shiner	*Notropis texanus*	G5 S3
Mud Darter	*Etheostoma asprigene*	G5 S3
Pirate Perch	*Aphredoderus sayanus*	G5 S3
Olive Hairstreak	*Mitoura grynea*	G5 S3
Prothonotary Warbler	*Protonotaria citrea*	G5 S3
Washboard	*Megalonaias nervosa*	G5 S3
Cyrano darner	*Nasiaeschna pentacantha*	G5 S3
Stygian Shadowfly	*Neurocordulia yamaskanensis*	G5 S3
Osprey - T	*Pandion haliaetus*	G5 S3S4
Bullsnake	*Pituophis melanoleucus*	G5 S3S4
Bullfrog	*Rana catesbeiana*	G5 S3S4
Western Meadowlark	*Sturnella neglecta*	G5 S3S4
Eastern Pipistrelle	*Pipistrellus subflavus*	G5 S3S4
Elktoe	*Alasmidonta marginata*	G5 S4
Silvery Scurf Pea – E	*Psoralea argophylla*	G5 SH
Franklin's Ground Squirrel	*Spermophilus franklinii*	G5SU
Western Harvest Mouse	*Reithrodontomys megalotis*	G5 SU
Silver Chub	*Macrhybopsis storeriana*	G5 SU
Blue-legged Grasshopper	*Melanoplus flavidus*	G? S1
Spot-winged Grasshopper	*Orphulella pelidna*	G? S1

Large-headed Grasshopper	*Phoetaliotes nebrascensis*	G? S1
Heptogenid Mayfly	*Macdunnoa perisimplex*	G? S1
Sand Locust	*Psinidia fenestralis*	G? S1S2
Seaside Grasshopper	*Trimerotropis maritima*	G? S1S2
Metretopid Mayfly	*Metretopus borealis*	G? S1S2
Orange-winged Grasshopper	*Pardalophora phoenicoptera*	G? S2S3
Northern Marbled Locust	*Spharagemon marmorata*	G? S2S3
Big River Mayfly	*Pseudiron centralis*	G? S3

Natural Communities in the Lower Chippewa Study Area

Oak Opening	G1 S1
Oak Barrens	G2 S2
Oak Woodland	S1
Dry Prairie	G2G3 S3
Dry-Mesic Prairie	G3 S2
Floodplain Forest	G3 S3
Southern Mesic Forest	G3 S3
Southern Sedge Meadow	G3 S3
Tamarack Fen	G3 S3
Sand Prairie	S2
Forested Seep	S2
Spring Lake	S3
Pine Relict	G4 S2
Northern Dry-Mesic Forest	G4 S3
Southern Dry Forest	G4 S3
Southern Dry-Mesic Forest	G4 S3
Shrub-Carr	G4 S4
Emergent Aquatic‘	G4 S4
Dry Cliff	S4
Moist Cliff	S4
Lake -- Shallow, hard, drainage	GU SU
Lake -- Oxbow	GU SU
Stream -- slow, hard, warm	GU SU

Appendix B

Tax Impact Study

How is the Tax Impact Study determined?

The Department of Natural Resources utilized a computer program from the Department of Revenue that predicts the impact of state land acquisition on an average valued residence's property taxes in a specified township. These scenarios are based on the following assumptions:

1.) The DNR in 1998 concurrently purchases from willing sellers 250 acres of bottomland and 250 acres of uplands in each of the following townships: Peru Township - Dunn County, Durand Township - Pepin County, and Maxville Township - Buffalo County. These townships were selected by the Department's feasibility study team as being representative for this study. The team, using local land values, selected $500 per acre for bottomland and $1,000 to $1,200 for uplands. All of these townships are entirely located in the Durand School District.
2.) Tax rates as well as local spending and state aids formulas are the same as the previous year.
3.) This study includes the payment-in-lieu of taxes that the Department makes to townships on the parcel the agency acquires.

Using these assumptions the following calculations were made:

1.) The market value of those lands to be acquired by the DNR is subtracted from the total market value used in the state aid formula. These changes affect local revenues resulting in a new local tax levy.
2.) Because of this change in the levy, local officials set a new mill rate.
3.) This mill rate is multiplied by the market value of the average improved residential property for each taxing district (county, town, school, etc.) within each affected township. This yields the "hypothetical" change in taxes paid per year resulting from state acquisition of these lands.

Town of Maxville - Buffalo County
Average market value of residential property: $50,000
Total net change in property taxes per year: -$2.09

Town of Peru - Dunn County
Average market value of residential property: $50,000
Total net change in property taxes per year: -$3.72

Town of Durand - Pepin County
Average market value of residential property: $75,000
Total net change in property taxes per year: -$2.44

Based on these assumptions, (spending, tax rates and aid formulas remain unchanged) for example, a resident in Maxville Township will pay on average $2.09 less in property taxes due to state acquisition of the given amounts of land.

Appendix C

Summary or responses to Alternatives Evaluation Form

LOWER CHIPPEWA RIVER STATE NATURAL AREA (LCRSNA)
Alternatives Evaluation Form - 46 respondents as of 1-28-99

PROJECT AREA

Please indicate which of the following alternatives you prefer (check one in each category):

A. Project boundary:

- 7 No action - Use existing project boundaries only
- 14 Use original study area boundary
- 3 Use a smaller study area boundary
- 20 Use a larger study area boundary

B. Acreage Goal:

- 8 No acquisition - Purchase only within existing project boundaries. (ie. existing wildlife areas and state natural areas)
- 14 Use the original acreage goal of protecting 15,000 acres.
- 3 Decrease the acreage goal to 12,000 acres.
- 19 Increase the acreage goal to 27,000 acres.

PROTECTION METHODS

Which of the following methods should be available to the Department to use to protect land within the LCRSNA?

(check as many as apply)

- 16 1. Articles of Dedication
- 24 2. Fee Title Acquisition
- 23 3. Acquisition of Management Agreements
- 22 4. Grants to Nonprofit Conservation Organizations (NCO's) for land acquisition or easements.
- 27 5. Long Term Management Agreements
- 16 6. Purchase of Development Rights
- 14 7. Other

Please list which of the techniques should be emphasized:
Numbers: #1-7, #2-13, #3-6, #4-13, #5-17, #6-7, #7-6

Are you a landowner within the study area? Yes 19 No 20